FEBRUARY 15, 1955

MODERN MEDICINE

The Journal of Diagnosis and Treatment

PROSTATIC CANCER
by Dr. Wyland F. Leadbetter

Table of contents page 2

in hypertension

Nitranitol with Rauwolfia

tandem action for safe, gradual, prolonged relief

Nitranitol for prompt relief of distressing symptoms... slower acting Rauwolfia for prolonged hypotensive and quieting action--no lag in symptom relief. The combination means normal life sooner for your essential hypertensives... no jolting of the vasomotor reflexes... side effects are uncommon.

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for a more normal life sooner for your hypertensive patient

Rx INFORMATION

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for direct vasodilation plus the added central hypotensive and calming actions of Rauwolfia serpentina

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Nitranitol
for safe, gradual, prolonged vasodilation

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Nitranitol with Phenobarbital
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Mannitol hexanitrate . 32 mg.
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MODERN CONTENTS

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MEDICINE
for February 15, 1955

Walter C. Alvarez
Editor-in-Chief

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THE MAN ON THE COVER is Dr. Wyland F. Leadbetter of Boston, Professor of Urology at Tufts College and Chief of Urology at the New England Center and Pratt Diagnostic hospitals. Dr. Leadbetter is surgeon in charge of the urology department at the Boston Dispensary and a staff member of several Massachusetts hospitals. He is a diplomate of the American Board of Urology and a member of several medical associations, including the American College of Surgeons, the American Urological Association, and International Society of Urologists. Among his contributions to medical literature is the Special Article on page 83, "Treatment of Prostatic Cancer."

CONTINUED

Contents for February 15 1955

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Business Manager: M. E. Herz. Address all correspondence to 84 South 10th Street, Minneapolis 3, Minn. Telephone: Bridgeport 1291. ADVERTISING REPRESENTATIVES: New York 17: Lee Klemmer, Bernard A. Smiler, John Winter, 50 East 42nd Street, Suite 401. Telephone: Murray Hill 2-8717. CHICAGO 6: Jay H. Herz, Hugh T. Gibson, 20 North Wacker Drive, Suite 1921. Telephone: Central 6-4619. SAN FRANCISCO 4: Duncan A. Scott & Co., Mills Bldg. Telephone: Garfield 1-7950. LOS ANGELES 5: Duncan A. Scott & Co., 2978 Wilshire Blvd. Telephone: Dunkirk 8-4151.

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MODERN MEDICINE

Therapeutic Index

for February 15, 1955

THIS INDEX, prepared for your convenience, lists all advertised products. Some products may be specifically indicated for more than one category, but space restricts listings to one category only. Details concerning the use of these products may be had by referring to pages listed, or by writing the manufacturer.

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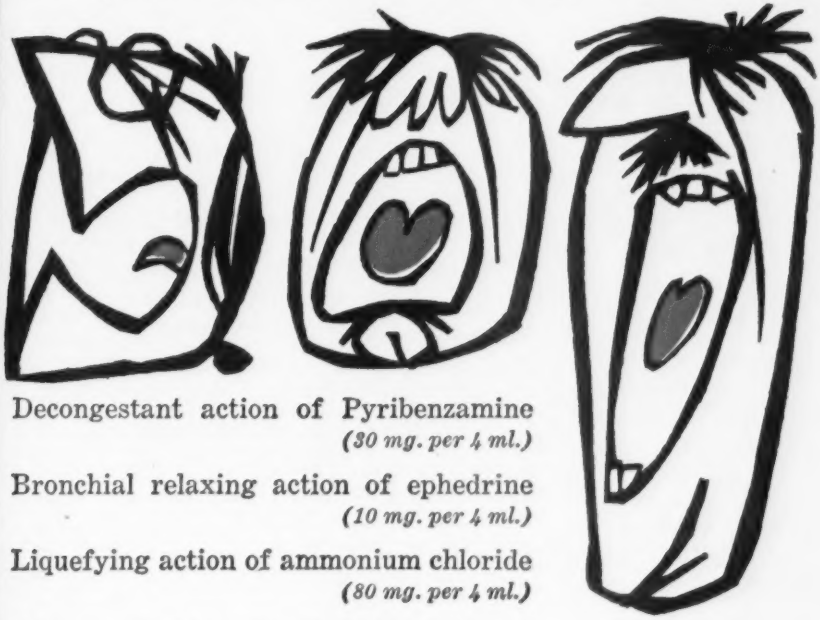

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1. Weinberg, Arthur, and Werner, W. E.: Bonadoxin, a New Effective Oral Therapy for Hyperemesis Gravidarum, New York Medical College and Rockaway Beach Hospital, 1954.
2. Personal communication.

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THE JOURNAL OF DIAGNOSIS AND TREATMENT

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The "hyperkinemic" activity of Baume Bengué goes beneficially deep. It enhances blood flow *through the tissue area* in arthritis, myositis, muscle sprains, bursitis and arthralgia. As Lange and Weiner[1] determined by the use of thermo-needles, hyperkinemic effect may extend to a depth of 2.5 cm.

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1. Lange, K., and Weiner, D.: J. Invest. Dermat. 12:263 (May) 1949.

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MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

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†The High Ascorbic Acid Content of the West Indian Cherry. Science, 103:219, 1946.
*Allergenicity of Modified and Processed Foodstuffs. Annals of Allergy, Vol. 10, No. 6, pg. 682, Nov.-Dec., 1952.
*Allergenicity of Modified and Processed Foodstuffs. Journal of Pediatrics, Vol. 43, No. 4, pg. 421, Oct. 1953.

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America's first and only complete line of fruit juices for babies

LETTER FROM THE EDITORS

Dear Reader:

Mark Twain once observed that it isn't what we know that causes trouble but what we know that isn't so. Most of us have run into situations in which we were forced to unlearn what we had accepted as truths. More often, however, we have an option to accept or reject the new. Sometimes the choice is easy, frequently it is not. But it is a choice that each person must make for himself.

Intelligent judgment is predicated on adequate information. With the tremendous volume of scientific writings in medicine, there is a plethora of data, which compounds the problem.

What is pertinent to the problem at hand? What is significant? The Editorial Board of *Modern Medicine* endeavors to help you with these two basic questions. Each of the editors carefully screens the literature in the field of his specialty. Reports of the articles he recommends to your attention are published twice a month in *Modern Medicine*. Whether you accept or reject the report is up to you, but the editors believe that you should be informed of the author's views.

This selective, objective reporting is unique in the field of medical journalism. It is made possible by the cooperation of a group of physicians who believe it important to do what they can to bring news of medical developments to the greatest possible number of practitioners.

Reading *Modern Medicine* regularly gives you the advantage of the combined experience of leaders in all fields of medicine. They give you the opportunity of acquainting yourself with the best of current medical thought. On this basis, your decision will be an informed one.

The Editors

new Trisocort* Spraypak*

Hydrocortisone, 3 Antibiotics, 2 Decongestants

Indications: *acute rhinitis chronic rhinitis bacterial rhinitis allergic rhinitis nasopharyngitis*

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Available: 'Trisocort Spraypak' is available—on prescription only—in convenient ½ fl. oz. plastic spray bottles.

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†T.M. Reg. U.S. Pat. Off. for hydroxyamphetamine hydrobromide, S.K.F.

Patent 2181845
Other patents applied for.

Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Obliteration Never Partial

TO THE EDITORS: I would like to take exception with several points in Diagnostix Case MM-277 *(Modern Medicine,* Dec. 15, 1954, p. 176).

Leriche and Morel described the syndrome of thrombotic obliteration of aortic bifurcation *(Ann. Surg.* 127:193-206, 1948). They stated definitely that pulsations were absent in the leg and groin.

The Visiting M.D. states that the left femoral seemed weak but pulses were present bilaterally and equally in both legs. This is definitely a misstatement. With a weak left femoral, the patient should have weak or absent leg and foot pulses. Collateral pelvic circulation cannot account for pedal pulses; it only saves the leg from trouble for a while by maintaining adequate nutrition of the limb.

Having seen several such cases, I agree with Leriche and Morel that bilateral absence of femoral and all leg pulses is necessary for a diagnosis of thrombotic obliteration of the abdominal aorta. Partial occlusion can occur, of course, as can occlusion of one or both iliacs. This is not the typical Leriche syndrome, however. Too many cases with just such faulty diagnoses are being labeled as the Leriche syndrome. Obliteration should mean just that or it should be modified and called sclerosis of the abdominal aorta without obliteration.

With palpable pedal pulses, even an aortogram may be of little value. I advise this procedure only in the absence of pulsations to locate the site and extent of occlusion and to determine whether it is amenable to a surgical attack—excision or blood vessel graft.

I believe that the Visiting M.D. was in error in his physical findings and that his mistake should be corrected.

L. LEWIS PENNOCK, M.D.
Pittsburgh

Classification Protested

TO THE EDITORS: This is a long-delayed but nevertheless vigorous protest against placing an article on cancer of the tongue in the laryngology section *(Modern Medicine,* June 1, 1954, p. 121).

Most general surgeons, particularly those who have an active interest in the management of head and neck disease, regard with grave apprehension the invasion of this

to reduce obstetric risks

the physician decides

field by otolaryngologists, untrained in either the philosophy or technic of radical cancer surgery. Such apprehension is legitimate, based as it is on the results of ineffective treatment of neoplasms which might have been curable by proper management.

IAN MACDONALD, M.D.
Los Angeles

Intoxicated Advice?

TO THE EDITORS: Dr. Nicholas G. Demy quotes from the "wise silenus" (*Modern Medicine*, Dec. 1, 1954, p. 29). The dictionary defines a silenus as a Grecian authority, a foster father and attendant of Bacchus, and leader of the satyrs. He was represented as a robust old man, generally in a state of intoxication, riding on an ass, and carrying a cantharus or bottle.

In classic mythology a satyr is a sylvan deity or demigod, often represented as part man and part goat, usually having horns on his head and a hairy body with the feet and tail of a goat. He, too, was an attendant of Bacchus.

Could the advice of the wise silenus have been given in a state of intoxication while riding on an ass, or was it again the story of Balaam: "out of the mouth of the ass" came the advice?

MORRIS KAPLAN, M.D.
New York City

when you diagnose cow's milk allergy,
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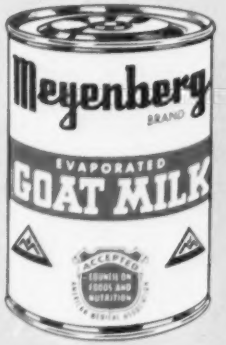

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Tonsillitis Therapy

TO THE EDITORS: I would like to add some remarks to the excellent Medical Forum discussion on tonsils and adenoids *(Modern Medicine,* Nov. 15, 1954, p. 157).

A significant therapeutic agent—x-ray therapy—was not mentioned. I believe that every acute infection should be treated first by x-ray. The same is true when surgical procedures are contraindicated. No hazards attend x-ray therapy; the unfortunate results of surgery are well known. In addition, the tonsils are necessary organs and surgical removal does not constitute the ideal treatment.

It has been proved that x-ray therapy can sterilize infected tonsils and shrink hyperplastic lymphoid tissue. When x-ray therapy fails, surgery can easily be performed.

Radiation therapy is indicated for repeated infections of Waldeyer's ring with sore throat and cervical adenopathy.

C. SOTEROPOULOS, M.D.
Chicago

Transfusion Precaution

TO THE EDITORS: I have read the letters of Drs. J. Edmund Deming and Curtis J. Lund *(Modern Medicine,* Dec. 1, 1954, p. 24) concerning the use of glucose solutions intravenously before blood transfusions and would like to state that I have seen several transfusion reac-

tions when 5% dextrose in water was used preceding the transfusion. Many of my colleagues have had the same experience; we therefore start all our blood transfusions with a small bottle containing 100 cc. of isotonic saline.

ARTHUR HOWARD, M.D.
Johnstown, N.Y.

So Much Tommyrot

TO THE EDITORS: The article on the modern concepts of thumbsucking is, if you excuse the slang, just so much tommyrot *(Modern Medicine,* Nov. 15, 1954, p. 136). Of my own four children, the last two are thumbsuckers. One, especially, is everything that he shouldn't be according to the article. Yet, the terrible deformities of teeth and mouth which are implied to be the unavoidable sequences of thumbsucking are very definitely absent in our son; he has as good a set of decidual teeth as anybody could desire and no cavities.

In addition, even the most biased psychiatrist could not find any of the frustrations or privations which would cause this "regression to an autoerotic device."

Why can't we admit that some of our traits may be caused by heredity? We should be well past the concept of John Locke that a newborn baby is a *tabula rasa.*

OLAF LUKK, M.D.
Montgomery, Minn.

NEW

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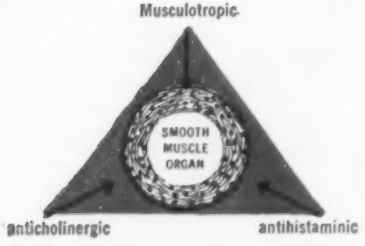

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Phenyltoloxamine	20.0 mg.
Ethaverine Hydrochloride	20.0 mg.

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Excellent anticholinergic effect
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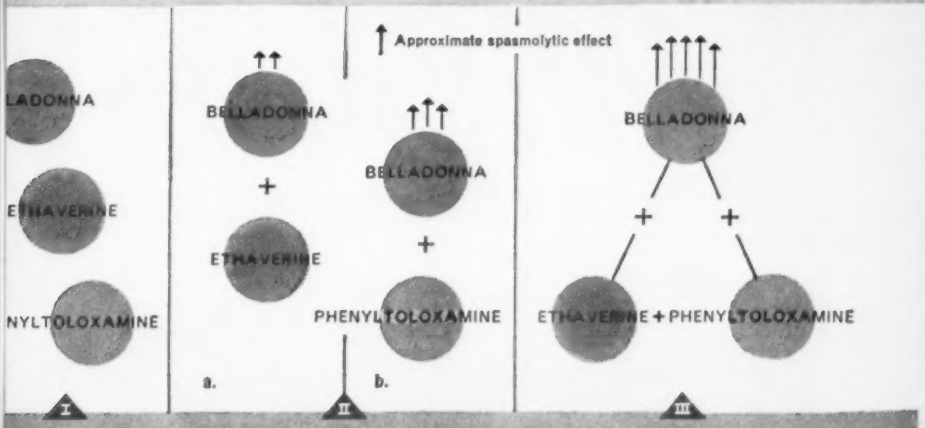

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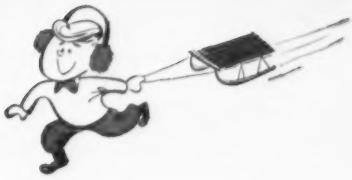

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the nutritional formula for growing children

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Thiamine Hydrochloride	1.5 mg.
Riboflavin	1.2 mg.
Pyridoxine Hydrochloride	0.5 mg.
Ascorbic Acid	40 mg.
Vitamin B_{12}	3 mcg.
Nicotinamide	10 mg.

01057

Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

Hemoglobin Maintenance

QUESTION: How high should the red cell count be maintained with pernicious anemia when neurologic symptoms are present? Are transient scintillating scotomas common symptoms of the disease?

M.D., Connecticut

ANSWER: *By Consultant in Hematology.* The red cell count or hemoglobin concentration in the anemic patient with or without neurologic symptoms should be maintained well within normal limits at all times.

Transient scintillating scotoma is not a symptom of pernicious anemia.

Arterial Disease

QUESTION: A 55-year-old man has angioarteritis obliterans with numbness of the toes, pain in the legs, and absence of dorsalis pedis pulsations. Popliteal blood pressure is 110/64 on the right side, where pain is more intense, and 155/90 on the left side. Is sympathectomy indicated?

M.D., Massachusetts

ANSWER: *By Consultant in Internal Medicine.* Apparently this man has obliterative arterial disease beginning below the popliteal artery, probably of atherosclerotic origin. To make a definitive diagnosis, the patient must be examined for pulsations of the posterior tibial artery, temperature of the extremity, and whether the leg is wet or dry. Color should be noted and atrophy of the tissue determined. An oscillometric index would determine the extent of the damage sustained by the arterial system.

If vasospasm is evidenced by a cold and wet extremity or if the femoral artery is open down to the knee, this patient would be benefited by a sympathectomy. However, if the feet are dry and cold and the subcutaneous tissue is atrophied, sympathectomy may be of little value.

If sympathectomy is performed, a lumbar sympathetic block should first be done. Temperature readings of the foot and toes should be made before and after the lumbar block. If the extremity becomes warm, a sympathectomy would be beneficial. Sympathicolytic agents are helpful but, because drug-induced vasodilatation is generalized, treatment could not be directed to the leg as by sympathectomy.

Collateral circulation is augmented by exercising to tolerance. When pain occurs, the patient should stop and rest.

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and 7 days after
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A potent anticholinergic agent successfully used in the management of infantile colic, enteralgia, pylorospasm, vomiting and spastic constipation. Also effective in the control of enuresis.

Antrenyl Pediatric Drops are compatible with whole milk, evaporated milk, condensed milk, and orange, pineapple, grapefruit, grape and apple juices. Average dosage 2 to 15 drops a day, according to age of patient.

Supplied: Antrenyl bromide Pediatric Drops, containing 1 mg. Antrenyl bromide per drop; bottles of 5 ml. with dropper.

Antrenyl® bromide
(oxyphenonium bromide CIBA)

Antrenyl®

Pediatric Drops

CIBA
Summit, N.J.

Submucous Resection

QUESTION: **How can hard crusts at the site of a submucous resection of the nasal septum be prevented? What is the best way to remove these crusts?**

M.D., Arizona

ANSWER: *By Consultant in Rhinology.* The incision for submucous resection should be placed on the cutaneous side of the mucocutaneous junction on the septal side of the nostril. The incision is closed with interrupted black silk sutures and the cartilage beneath is not removed.

Crusting at the site of incision is best controlled by local application of neomycin ointment two or three times daily.

Reactions to Liver

QUESTION: **How frequent are reactions when liver is given over a long period? If vitamin B_{12} is used exclusively, should the patient eat broiled liver two or three times a week?**

M.D., Connecticut

ANSWER: *By Consultant in Internal Medicine.* The incidence of reactions to parenteral liver has been observed to be as high as 18%. Reactions usually occur during the first two years of therapy but may occur at any time, even after nineteen years of liver injections.

When vitamin B_{12} is used exclusively, liver may be included in the diet but need not be eaten in excessive amounts or regularly.

NOW – for truly effective cough therapy

– a choice of **2** forms:

ROBITUSSIN*

"The effective cough medicine of choice"[2] with documented[1,2] superiority. In each 5 cc. teaspoonful:

Glyceryl guaiacolate 100 mg.
—most powerful of all expectorants, increases RTF almost 200%.

Desoxyephedrine HCl 1 mg.
—relieves bronchial spasm while improving the mood of the cough-weary patient.

—in a highly palatable syrup vehicle

ROBITUSSIN* A-C

(Robitussin with Antihistamine and Codeine)

For comprehensive treatment of coughs aggravated by an allergic factor or a hypersensitive cough reflex. Provides the expectorant-antitussive and sympathomimetic action of Robitussin, plus...

Prophenpyridamine maleate 7.5 mg.
—a potent antihistamine, noted for its freedom from side effects.

Codeine phosphate 10 mg.
—the first choice of cough suppressants, highly effective, yet non-addictive.

EXEMPT NARCOTIC

NEW

REFERENCES

1. Blanchard, K. and Ford, R. A., Effective Antitussive Agent in the Treatment of Cough in Childhood, Journal-Lancet, 74:443, Nov., 1954.* 2. Case, L. J. and Frederik, W., Comparative Clinical Effectiveness of Cough Medication, Amer. Pract. and Dig. of Treat., Vol. 2, p. 844, October, 1951.*

*Reprints available upon request.

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NEW- IN THE TOPICAL TREATMENT OF ALLERGIC SKIN CONDITIONS

TOPICAL LOTION

'ALFLORONE'

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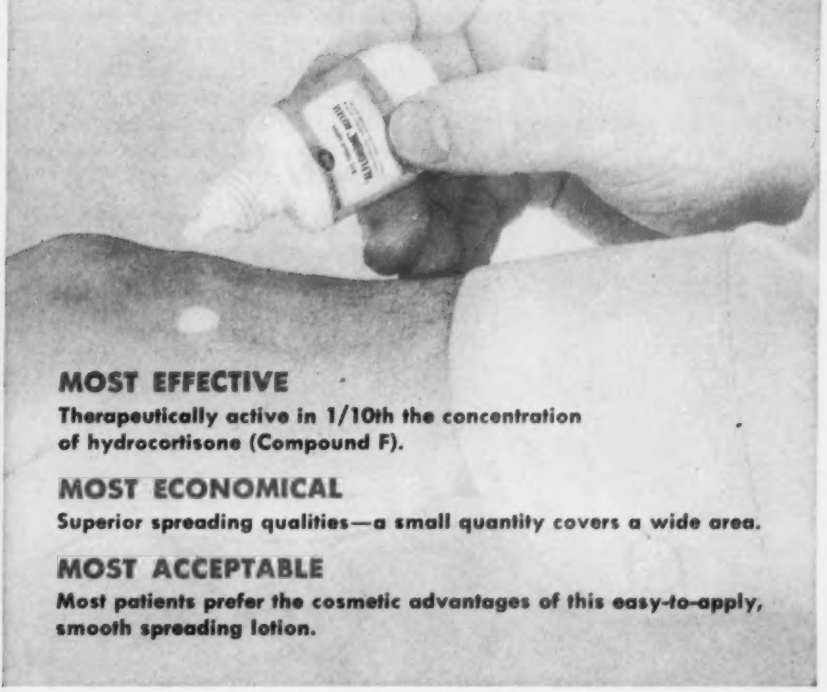

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MOST ACCEPTABLE

Most patients prefer the cosmetic advantages of this easy-to-apply, smooth spreading lotion.

Supplied in a cosmetically elegant base in two concentrations: 0.25% and 0.1% in 15 cc. plastic squeeze bottles.

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DIVISION OF MERCK & CO., INC.

WEIGHT FOR WEIGHT, THE MOST EFFECTIVE ANTI-INFLAMMATORY AGENT YET DEVELOPED FOR TOPICAL USE

Trauma and Diabetes

QUESTION: Can diabetes occur as a direct result of shock and trauma from an accident?

M.D., Illinois

ANSWER: *By Consultant in Internal Medicine.* Trauma does not cause diabetes, but temporary glycosuria may result. In my own practice, I have treated over 15,000 cases of diabetes, none of which was the result of trauma or injury to any part of the body.

Some literature has cited trauma as a factor in diabetes, but this assumption was probably based on experimental work of Claude Bernard in which puncture of the floor of the fourth ventricle produced glycosuria. However, these reports were not substantiated by glucose tolerance tests. Determinations were not made of blood sugar elevations or of whether the sugar found in the urine was glucose.

More recent studies among war casualties and college athletes reveal that the incidence of diabetes was no greater than among the general population. The conclusion, therefore, is that trauma is not a factor in diabetes.

To establish trauma as a possible cause of diabetes, severe injury directly over the pancreas, injuring the islands of Langerhans and producing diabetes, would have to be proved. Proof also would have to be given that diabetes did not exist before the accident.

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a vitamin-mineral formulation of 21 balanced factors, supplementing the depleted diet

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Vitamin A	5,000 U.S.P. Units
Vitamin D	500 U.S.P. Units
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Thiamine Hydrochloride	3 mg.
Riboflavin	3 mg.
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Niacinamide	25 mg.
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Calcium Pantothenate	5 mg.
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Phosphorus	165 mg.
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to fortify the sick...

Viterra® Therapeutic

high-potency capsules specifically designed to meet increased nutritional needs during illness

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Thiamine Mononitrate	10 mg.
Riboflavin	5 mg.
Vitamin B_{12}	5 mcg.
Niacinamide	100 mg.
Ascorbic Acid	150 mg.
Calcium	103 mg.
Cobalt	0.1 mg.
Copper	1 mg.
Iodine	0.15 mg.
Iron	10 mg.
Magnesium	6 mg.
Manganese	1 mg.
Molybdenum	0.2 mg.
Phosphorus	80 mg.
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Zinc	1.2 mg.

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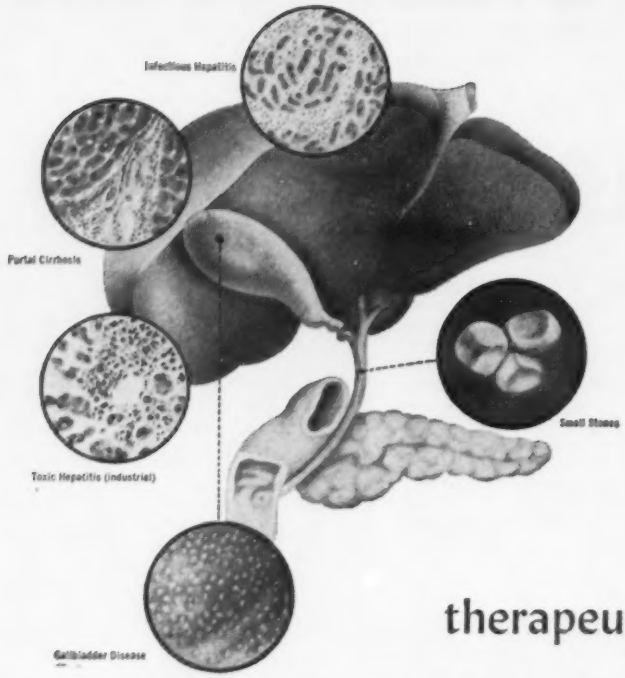

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in liver and gallbladder disorders

"...due to the production of true hydrocholeresis—
a marked increase both in volume and fluidity of the bile."*

"...the objectives of the principal therapy cannot but be furthered...."*

"...confirmed further by the clinical experiences reported."*

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Schwimmer, D.; Boyd, L. J., and Rubin, S. H.: Bull. New York M. Coll. *16*:102, 1953.

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Salicylates and cortisone have complementary action when combined . . .

Smaller doses of each are sufficient to produce a therapeutic response equivalent to massive cortisone therapy. With smaller doses, side effects are absent, thus permitting SALCORT therapy over a prolonged period. THERE ARE NO WITHDRAWAL PROBLEMS WITH SALCORT.

Salcort provides safe, dependable relief in arthritic affections. Early functional improvement and a sense of well being are significant in a large percentage of patients.

Each tablet contains:

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you'll meet a patient

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●Views and comments of physicians who have been visitors recently to foreign countries are welcomed for publication in this department.

Conventions in Spain

TO THE EDITORS: Two outstanding medical events took place in Spain last fall. The Thirteenth International Conference of the International Union Against Tuberculosis was held in Madrid during the last week of September and the Third International Congress on Diseases of the Chest met in Barcelona early in October.

The roster of speakers was made up of famous specialists in internal medicine, chest surgery, roentgenology, allergy, and cardiac disease. These men are engaged in private practice and in sanatorium, dispensary, or public health work.

The first topic discussed at the Madrid session was anatomic and bacteriologic changes in tuberculous lesions under the influence of antibiotics and chemotherapy. Salient points of the presentations can be summarized: Streptomycin and isoniazid are capable of inducing spectacular improvement in acute miliary tuberculosis of the lung. Miliary tubercles may disappear completely or be transformed into fibrotic nodules within a few weeks. Of the various forms of chronic exudative tuberculosis, exudative alveolitis, perifocal inflammation, and small caseous lesions show good curative results. Large caseous

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gives you a new, unique formula with a complementary combination that

1. **Relaxes tense muscles with Mephenesin (400 mg.)**
2. **Controls G-I spasms with Homatropine Methyl Bromide (1.5 mg.)**
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5. **Avoids drowsiness and toxicity by its small complementary doses**
6. **Permits long-term daytime control because effects are non-cumulative**

1 to 2 tablets t.i.d. after meals. Also at bedtime if necessary.

Bottles of 50 and 500 scored tablets.

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infiltrations are not so influenced. Recent cavities may heal, leaving behind fibrotic residuals, clean cavity with fibrotic walls, bullous cavity, or cavity with caseous material. Cavities which remain open contain viable tubercle bacilli in about 75% of cases. Incidence of refractoriness of tubercle bacilli to therapy is low when streptomycin and isoniazid are used together.

It was the consensus that a period of sanatorium treatment is essential for the treatment of pulmonary tuberculosis. Also, comments were made on employment of sodium para-aminosalicylate and other agents with streptomycin.

Another important subject of discussion was the place and choice of surgical interventions in pulmonary tuberculosis treated with antibiotics and chemotherapy. A rather cautious attitude was taken concerning artificial pneumothorax, although it was recognized that complicating empyema may be prevented by chemotherapy. Crafoord of Stockholm thinks that extrapleural pneumothorax has a real place in this field. He considers artificial pneumoperitoneum of value in patients with basal cavities and, also, in instances when more radical forms of intervention are contraindicated because of the nature or extent of the disease. His experience with the Holst-Semb type of thoracoplasty was favorable. He emphasized that pulmonary resection had a definite place in the therapy of tuberculosis. A brilliant and highly instructive presentation of the same subject was given by Toerning of Copenhagen. Both speakers referred to the importance of cardiopulmonary function tests

(Continued on page 52)

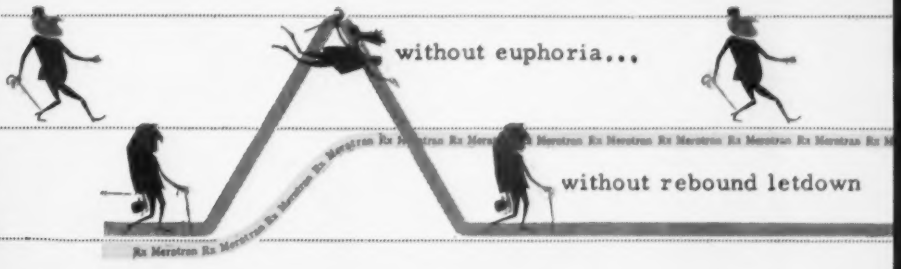
NEW DRUG

Meratran

(pipradrol hydrochloride)

a unique central motivant for the treatment of the emotionally tired and depressed patient

subtly returns your emotionally fatigued and depressed patients to their usual level of alertness, interest and productivity...



Meratran is chemically new and clinically different. It acts upon the subcortical area of the brain. In doses easily adjusted to patient needs its onset of action is subtle -- comfortable -- prompt. Its effectiveness is prolonged.[1-3]

- no appreciable effect on blood pressure and respiration
- restores needed sense of well being
- no tolerance or drug habituation
- normal appetite undisturbed
- no jitters - no apprehension
- little or no insomnia
- wide range of safety
- no rebound letdown

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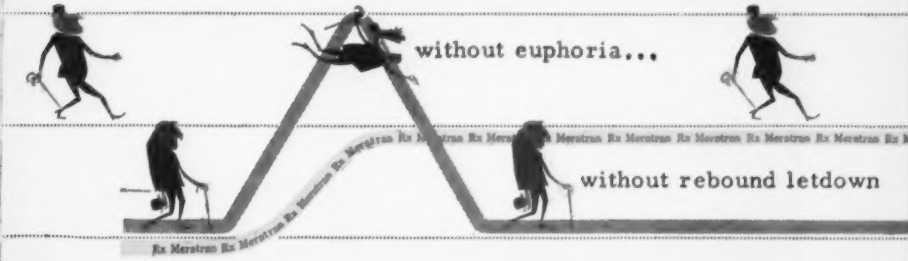

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- **no appreciable effect on blood pressure and respiration**
- **restores needed sense of well being**
- **no tolerance or drug habituation**
- **normal appetite undisturbed**
- **no jitters - no apprehension**
- **little or no insomnia**
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SQUIBB 200,000 UNIT PENICILLIN G POTASSIUM

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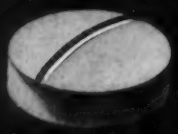

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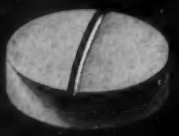

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Bottles of 12 and 100

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open and add soluble penicillin to fruit juice . . .

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EITHER WAY IT'S **PEN**ICILLIN **T. I. D.**

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AQUEOUS EPINEPHRINE SUSPENSION 1-200

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RECENT CLINICAL REPORTS

During the past few years we have had considerable experience with, and have been favorably impressed by, the action of an aqueous suspension of epinephrine, **Sus-Phrine 1:200 (Brewer).** This material has a decided advantage over epinephrine suspended in oil. There is no difficulty with this material in obtaining an even suspension with a few shakes of the ampule even if it has been standing for a considerable time. The aqueous suspension flows freely through an ordinary hypodermic needle. Another advantage is that 20 per cent of the amount injected is available for immediate bronchodilator effect. The balance is gradually liberated for sustained action. We have given doses of 0.1 to 0.25 cc. (1½ to 4 minims) to children, with excellent immediate as well as prolonged effect.

Levin, S. J. Ped. Cl. of N. A. 1:975,1954.

Epinephrine suspended in oil has the disadvantages that because of delayed action it cannot be used when prompt effect is desired as in acute asthmatic attack, and it must be given intramuscularly making self-administration difficult. Aqueous suspensions have a prompt, as well as a prolonged action, and may be self-administered subcutaneously as readily as epinephrine hydrochloride solution.

Naterman, H. L. The Journ. of Allergy, 24:60,1953.

. . . in 173 patients . . . all but three stated emphatically that they prefer the new product **(Sus-Phrine)** to epinephrine in oil . . . Greatest individual acceptances of the new injection has been by children.

Unger, A. H. and Unger, L. Annals of Allergy, 10:128,1952.

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5 cc. VIAL

2 cc. VIAL

5 vials to a package

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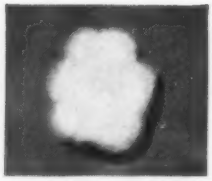

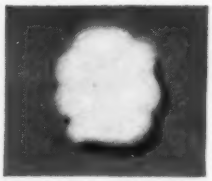

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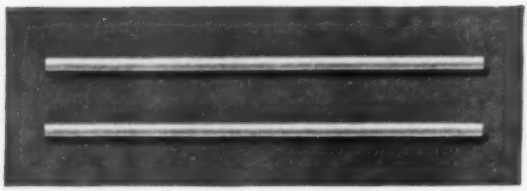

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perfectly made for such delicate uses
as swabbing baby's nose and ears
Right shape . . . Right size . . .
Right construction

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for patients with painful "creaky" joints

Pabirin . . . safest of the antirheumatic salicylate-paba combinations

For these reasons: Salicylism does not occur, even with heavy daily requirements. *Low* dosage levels produce *high* blood levels. Acetylsalicylic acid, the most effective of the salicylates, is well-tolerated. Pabirin is sodium-*and* potassium-free. It offsets salicylate depletion of vitamin C by providing a therapeutic amount of 300 mg. in the average daily dose of six capsules. And highly effective . . . High blood levels are promptly reached and sustained due to the mutually potentiating action of acetylsalicylic acid and PABA plus the retarding effect of PABA on salicylate excretion. The rapidly disintegrating capsules provide for fast absorption and prompt relief of pain.

Pabirin is a DORSEY preparation.

Each capsule contains:

Acetylsalicylic acid	5 gr.
Para-aminobenzoic acid	5 gr.
Ascorbic acid	50 mg.

Average dose: 2 to 3 capsules 3 or 4 times daily.
Supplied: In bottles of 100, 500 and 1,000 capsules.

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in selecting patients for major surgical interventions.

The Third International Congress on Diseases of the Chest was held at the magnificent National Palace of Montjuich in Barcelona. In addition to formal papers, 4 panel discussions were arranged. The latter covered tumors of the chest, asthma and emphysema, tuberculosis, and cardiovascular diseases. At the panel discussions, with the help of interpreters and with the aid of earphones, one was able to listen to Spanish, French, German, and English delivery of questions and answers. I was moderator of the panel on asthma and emphysema.

Scientific, technical, and pharmaceutic exhibits and the showing of scientific motion pictures attracted a great deal of attention. At the splendid inaugural session, Dr. Raoul F. Vaccarezza of Buenos Aires was awarded the gold medal of the American College of Chest Physicians for his pioneering studies on respiratory function tests.

L'Eltore of Rome reported a pronounced increase in the incidence of primary bronchogenic carcinoma. In view of the rather late diagnosis in many of these cases, Knipping of Cologne proposed a "scout" procedure that consists of a standard roentgenogram of the chest followed by tomograms, bronchograms, and small focus chest films. Farber of San Francisco stat-

(Continued on page 58)

THORAZINE*

for the treatment of

ALCOHOLISM

In acute and chronic alcoholism,
'Thorazine' has the following advantages:

- Controls psychomotor agitation and delirium tremens
- Induces relaxation and sleep from which the patient can be aroused to take food or fluids
- Controls nausea and vomiting
- Restores appetite and ability to take liquids; in many cases eliminates the necessity for intravenous fluids
- Lessens or abolishes the anxiety and tension so often experienced by chronic alcoholics; helps these patients to refrain from drinking and to be more receptive to psychotherapy

1. *Albert, S.N.; Rea, E.L.; Duverney, C.A.; Shea, J., and Fazekas, J.F.: Use of Chlorpromazine in the Treatment of Acute Alcoholism, M. Ann. District of Columbia 23:245 (May) 1954.*
2. *Cummins, J.F., and Friend, D.G.: Use of Chlorpromazine in Chronic Alcoholics, Am. J. M. Sc. 227:561 (May) 1954.*

'Thorazine' Hydrochloride is available in 10 mg., 25 mg., 50 mg. and 100 mg. tablets; 25 mg. (1 cc.) ampuls and 50 mg. (2 cc.) ampuls.

For information write:

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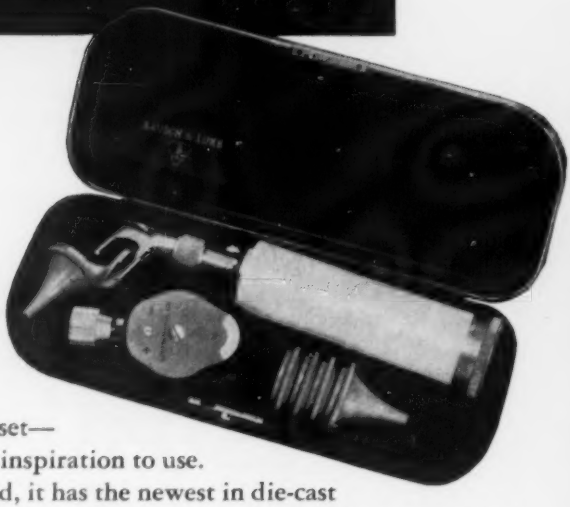
★Trademark for S.K.F.'s brand of chlorpromazine.
Chemically it is 10-(3-dimethylaminopropyl)-2-chlorphenothiazine.

NEW Bausch & Lomb INSTRUMENT SET



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a pleasure to own, an inspiration to use.
Completely redesigned, it has the newest in die-cast aluminum heads, positive-locking bayonet type handle connections, brilliant flicker-proof lighting from pre-focused lamps, and positive thumb-tip control of light intensity. Weight, balance and finish—all contribute to a new luxury "feel". Your supplier will show it to you—or write: Bausch & Lomb Optical Co., Rochester 2, New York.

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SINCE B&L 1853

"cleared up dramatically"[1]

with this new, simple
totally safe therapy
used experimentally in...

SIMPLE "COLDS", PHARYNGITIS, TONSILLITIS, INFLUENZA, BRONCHITIS

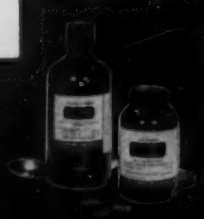
rapid normalizing
of elevated temperature

quick relief from
distressing symptoms

In a group of patients[1] with severe upper respiratory infection who received C.V.P., with few exceptions "recovery occurred in from 8 to 48 hours, usually in 24 hours." In influenza, there was a rapid drop in temperature to normal with simultaneous relief from symptoms, with "little or none of the expected subsequent asthenia."

CVP

(Citrus Flavonoid Compound with Vitamin C)



Each C.V.P. capsule or each teaspoonful (5 cc.) of syrup provides:

Citrus Flavonoid Compound*	100 mg.
Ascorbic Acid (Vitamin C)	100 mg.

*(water-soluble whole natural "vitamin P" complex is more active than insoluble rutin or hesperidin).

In their preliminary report, the investigators suggest that since the effective dosage of C.V.P. in these infections is identical with that known to restore capillary integrity to patients with increased capillary fragility and permeability, this combination of flavonoids and vitamin C clears up respiratory infections by decreasing capillary permeability. "However, other anti-infective properties are not excluded and are being investigated."

1. Biskind, M. S., and Martin, W. C.: Amer. J. Dig. Dis. 21:177, 1954.

samples (capsules or syrup) and reprint from . . .

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(Arlington-Funk Laboratories, division)

250 East 43rd Street, New York 17, N.Y.

ed that by cytologic examination of sputum and bronchoscopically aspirated secretions, correct diagnosis of lung cancer was possible in 90% of cases, provided 5 consecutive examinations were done. Ask-Upmark of the University of Upsala called attention to the high incidence of lung cancer in printers. He quoted experimental studies in support of his findings. Another report commented on the possible diagnostic value of paper electrophoresis of expectorated material. Swierenga of Utrecht diagnosed the great majority of his cases of lung cancer by bronchoscopic intervention, only 10% by transthoracic aspiration biopsy.

Favorable therapeutic results in bronchial asthma were obtained by Businco of Rome with the use of Coramine and nicotinic acid. Also, in some instances, severe asthma was controlled by the intravenous injection of novocain. Elwell of Brisbane advocates continuous postural drainage for the disease.

Bieto of Barcelona focused attention on the early, reversible phase of atelectasis caused by bronchial obstruction. Elimination of the obstruction restores normalcy of the lung. One of the speakers presented a large collection of cases of *Echinococcus* disease of the lung.

Beautifully illustrated lectures were presented on mediastinal tumors by speakers from Spain and Canada. The possibility of cavity formation in silicosis, with or without tuberculosis, was mentioned by Kilpatrick of Cardiff. Lopo de Carvalho Cancellas of Portugal described a new form of pneumonoconiosis found in workers in the cork industry. He designated it

(Continued on page 64)

the long and short of Bentyl's relief of nervous gut

Clinicians[1,2] prove Bentyl is long on effective relief... short on unwanted side effects including blurred vision and dry mouth.

1. McHardy and Brenner: Gen. Med. J. 46:1130, 1958.
2. Lorber and Shay: Fed. Proc. 13:90, 1958.

Complete Bentyl bibliography on request.

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1 **Heinz Strained Orange Juice** is squeezed from sweet, juicy, tree-ripened oranges. Such a high percentage of the vitamin C is retained that just half a four-ounce can gives babies more than their normal daily requirement. And Heinz Strained Orange Juice is always *uniform* in vitamin content—always *uniform* in flavor and color, too.

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3 **Only Heinz Strained Orange Juice** is backed by a famous 86-year reputation for outstanding quality. It is specially processed for babies—and its consistency never varies. You *know* it's good because it's *Heinz*.

OVER 60 VARIETIES—27 Strained Foods, 22 Junior Foods, 8 Strained Meats, 5 Junior Meats, 4 Pre-Cooked Cereals

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Baby Foods
You Know It's Good
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Gallogen

Gallogen (gal-o-jen) is the Massengill name for the synthesized active principle of the ancient drug Curcuma. The isolation and synthesis of the active principle permits the administration of a pure, standardized form of the drug. Gallogen is a true choleretic, not a bile salt.

Gallogen acts directly on the hepatic cells. It stimulates the flow of bile which is whole in volume and composition. The choleresis is in proportion to the functional capacity of the liver and is prompt and lasting.

Gallogen is indicated whenever it is desirable to increase the flow of bile, encourage activity of the gallbladder and promote normal function of the biliary system.

send for professional literature and sample

Supply: in bottles of 100 and 1000 tablets containing 75 mg. of the diethanolamine salt of the mono-d-camphoric acid ester of p-tolylmethyl carbinol.

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for highest potency • wide spectrum
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"suberosis" after the cork oak (*Quercus suber*).

Hansen of Copenhagen attributes the Bamberger-Marie syndrome—symmetric pain in the big joints, muscular stiffness and reduced mobility of the extremities—to transmission of impulses through the vagus nerve. He was able to eliminate these symptoms, induce a disappearance of articular swelling and subperiosteal proliferation of bones of the wrist, hand, and ankle, and prevent clubbing of the fingers by vagal resection.

New clinical syndromes reported are of interest. Alveolar-capillary block is characterized by dyspnea on exertion in patients who have no demonstrable heart or lung disease or other extrapulmonary condition associated with shortness of breath. Convulsive respiration of infants with symptoms, but not signs, of bronchiolitis was also described.

Important contributions were made to the clarification of the clinical aspects of arteriovenous aneurysm of the lung, segmental bronchitis, bronchiectasis, pulmonary bullae, essential pulmonary hemosiderosis, and cardiovascular diseases.

No wonder that those of us who had the opportunity to attend this congress left it satiated with worthy information and with a most pleasant memory of gracious hospitality.

ANDREW L. BANYAI, M.D.
Milwaukee

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The most modern
Broad-Spectrum Antibiotic

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When you think of Tetracycline, think of
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POLYCYCLINE

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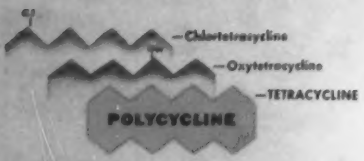

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Like its older analogues, it is

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against gram-positive and gram-negative organisms, certain rickettsiae and large viruses.

Unlike its older analogues, it has a

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no chlorine atom (present in chlortetracycline); and no hydroxyl group (present in oxytetracycline).

SUPERIOR CLINICAL PERFORMANCE

greater tolerance: markedly lower incidence and severity of adverse side effects.

greater solubility than chlortetracycline, yielding quicker absorption and wider diffusion in body fluids and tissues.

greater stability in solution than chlortetracycline or oxytetracycline, permitting higher, more sustained blood levels.

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POLYCYCLINE SUSPENSION '250

Ready to use without reconstitution, stable for 18 months without refrigeration. Really palatable.
— in concentration of 250 mg. per 5 cc., in bottles of 30 cc.

POLYCYCLINE PEDIATRIC DROPS

For accurate dosage in small amounts.
— in concentration of 100 mg. per cc. in bottles of 10 cc. with dropper calibrated for administration of 25 or 50 mg.

POLYCYCLINE CAPSULES

Handy form for oral use, in two potencies:
— in capsules of 100 mg., in bottles of 25 and 100
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POLYCYCLINE INTRAMUSCULAR

For deep intramuscular injection.
— in vials of 100 mg. per vial.

Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

Hospital—*Liability*

PROBLEM: A doctor directed a hospital nurse to serve tea to a patient. The patient, who was under the influence of narcotics, burned herself when the nurse left hot water within her reach. Could the hospital avoid liability on a theory that the nurse was the doctor's employee when the accident occurred?

COURT'S ANSWER: *No.*

So decided the California Supreme Court (27 Cal. 2d 296, 163 Pac. 2d 860).

Witnesses—*Medical Experts*

PROBLEM: A fireman contended that a myocardial infarction resulted from monoxide poisoning. An expert testified that the poisoning might have caused the infarction, but later stated the opinion positively. Should his testimony have been excluded?

COURT'S ANSWER: *No.*

The Minnesota Supreme Court said that a change in medical expert's testimony may be considered by the jury in weighing his opinion but does not justify exclusion of the testimony (66 N.W. 2d 892).

License—*Revocation*

PROBLEM: A state medical board can revoke or suspend a license if holder is convicted of a felony. A doctor was found guilty of a felony but was not sentenced; he was placed on five years' probation. Could the board revoke his license?

COURT'S ANSWER: *No.*

According to a Florida statute, a man is not convicted unless he is sentenced (193 So. 82).

Insurance—*Accidental Pneumonia*

PROBLEM: A physician administered a hypodermic injection of morphine and atropine as a sedative for a person who had been drinking. The patient died from aspiration pneumonia, seemingly contracted through drainage into his lungs during unconsciousness induced by the injection. Was double indemnity insurance payable under a clause covering death from bodily injuries through external, violent, and accidental means?

COURT'S ANSWER: *Yes.*

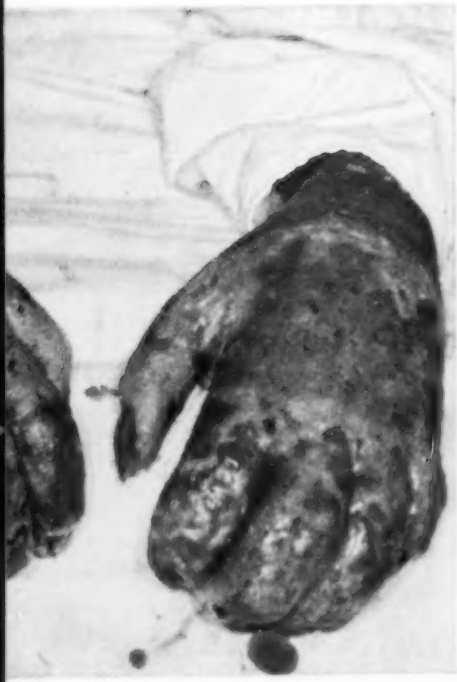
The United States Circuit Court of Appeals, Second Circuit, reasoned that the injection produced a visible contusion or wound within the meaning of the policy. The immediate cause of death was pneumonia, a disease, but the effects of the pneumonia were merely intervening links of causation beginning with the hypodermic injection. If the patient had pneumonia when the injection was administered and if disease were aggravated by the injection, the policy would not have been valid (121 Fed. 683).

Severe Burns of the Hands

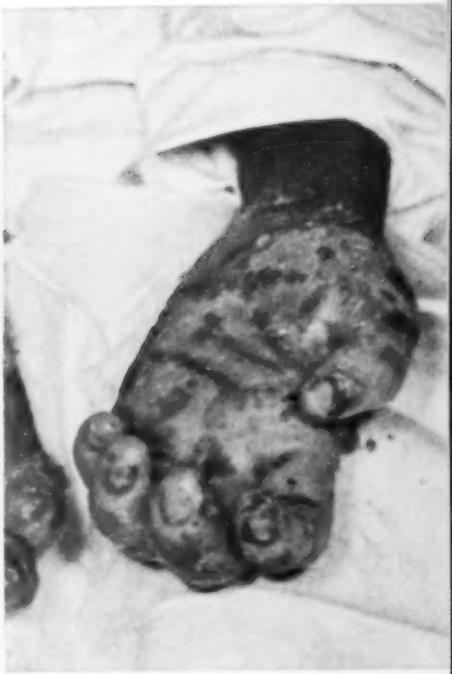
Third Degree Chemical Burns. This photograph shows the extensive third degree chemical burns sustained after application of ointments obtained from a "faith healer".

Appearance after Enzymatic Debridement. This illustrates the cleansing effected in 1 week by soaking the hands for 6 to 8 hours daily in 100 ml. of saline containing 40,000 units SK and 120,000 units SD.

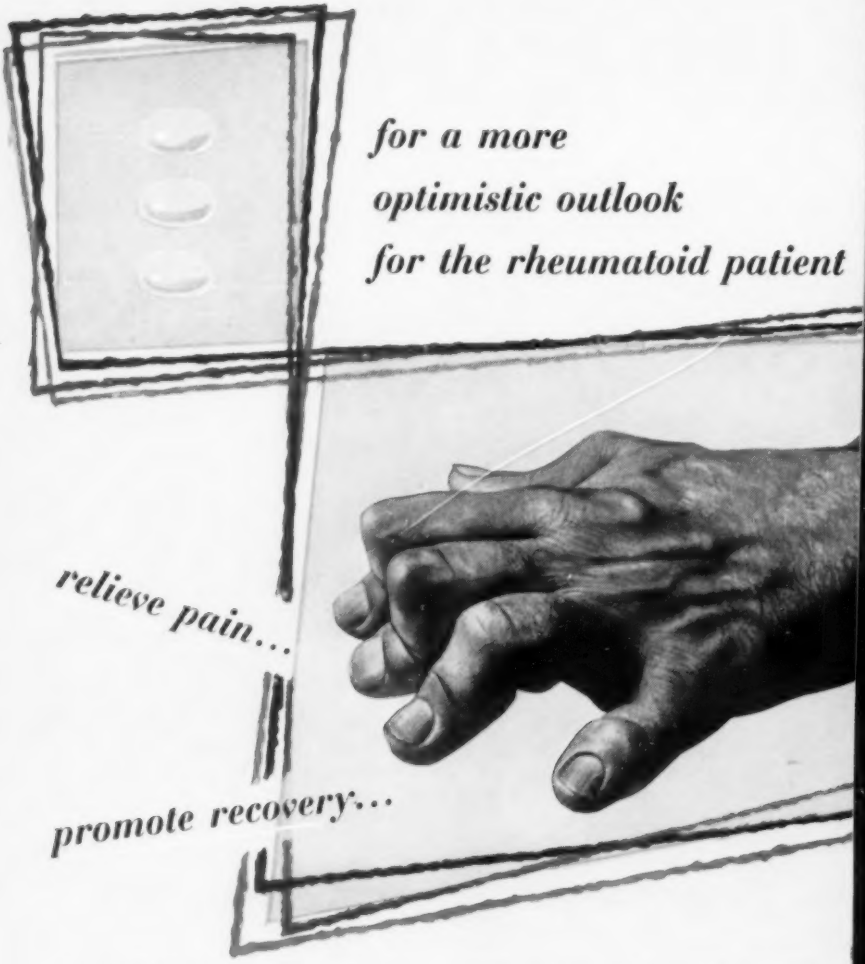
*VARIDASE STREPTOKINASE-STREPTODORNASE. REG. U.S. PAT. OFF.



Dorsal Surface after Grafting. In addition to liquefying the necrotic tissue, VARIDASE* appeared to stimulate the growth of healthy granulation tissue, and thus effectively prepared the lesions for skin grafting.



Palmar Surface after Grafting. These two photographs show the excellent results in skin grafting after enzymatic debridement with VARIDASE. There was almost 100 per cent take on the right hand and about 95 per cent take on the left.



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PABALATE-SODIUM FREE...Each enteric-coated, Persian rose colored tablet contains 0.3 Gm. (5 gr.) of potassium salicylate, 0.3 Gm. (5 gr.) of para-aminobenzoic acid (as the potassium salt), and 50 mg. of ascorbic acid.

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Hospitals—*Records as Evidence*

PROBLEM: Does a hospital record signed by a doctor constitute legal evidence even though the physician is not called as a witness to verify it?

COURT'S ANSWER: *Yes.*

The decision of the Alabama Supreme Court is in line with what federal and appellate courts of New York, Maryland, Pennsylvania, California, and Ohio have declared (75 So. 2d 117).

But only statements referring to the patient's physical condition are admissible. For example, it may be shown by the record that a person was injured in an automobile accident, but an account of the cause of the accident must be deleted (192 Md. 319, 64 Atl. 2d 117).

Witnesses—*Confidences*

PROBLEM: The New York City Sanitary Code requires hospital authorities and physicians to report criminal abortions to the Department of Health. A state statute forbids physicians to disclose confidential communications of patients. Was the medical superintendent of a hospital guilty of contempt in refusing to comply with a grand jury subpoena to produce records of all patients who had been treated for abortion other than therapeutic?

COURT'S ANSWER: *No.*

The Kings County Court gave paramountcy to the statute over the sanitary code provision, and also noted that the superintendent acted in good faith and on advice of the City Corporation Council (135 N.Y. Supp. 2d 381).

Bills—*State Claims*

PROBLEM: In Iowa, a statute provides that bills consequent to the last illness have preference among claims against decedent's estate. Was a husband entitled to reimbursement from his wife's estate, having paid the medical bill for her last illness?

COURT'S ANSWER: *Yes.*

However, the Iowa Supreme Court noted that a husband is not entitled to reimbursement for expenses of previous illnesses of a deceased wife (15 N.W. 2d 361, 234 Ia. 1217).

¶ Statutes in different states vary concerning liability of surviving spouse for medical bills. An Ohio Court of Appeals decided that a man who paid expenses of his wife's last illness before she died was not entitled to reimbursement, although he was insolvent (2 N.E. 2d 494, 64 Ohio App. 1).—A.L.H.S.

Medical Care—*Employer's Duty*

PROBLEM: An industrial employee walked into the plant dispensary pale, perspiring, and complaining of chest pain. He thought he had indigestion. The nurse in charge offered to call the plant physician whose office was 2 blocks away. The employee refused, saying he wanted his own doctor, who could not be immediately reached. He was driven home but was not on a stretcher. His doctor diagnosed coronary occlusion, from which the patient died six days later. Was the employer liable in damages?

COURT'S ANSWER: *No.*

The Appellate Division of the New Jersey Superior Court said that an employer must provide medical care when a worker is suddenly taken ill and is too badly stricken to secure care for himself. Nothing else could reasonably be expected in this case (17 N.J. Super. 441, 86 Atl. 2d 289).

Expert Testimony—*Scope*

PROBLEM: At a murder trial did the judge properly refuse to permit a physician to state the difference between conduct of accused and a normal person and a psychologist to state whether accused acted deliberately when he shot a police officer?

COURT'S ANSWER: *Yes.*

The Connecticut Supreme Court of Errors said that the questions were general and invaded the province of the jury (109 Atl. 2d 364).

Malpractice—*Applying Casts*

PROBLEMS: A youth sustained a hip injury and was treated by a doctor. A surgeon applied a cast six months later to facilitate the healing of an infection. Evidence did not show constriction of blood vessels or nearby swelling. Was surgeon liable for an abscessed condition on a theory that the cast had been too tightly applied? Was defendant liable because his prediction of early recovery was not fulfilled?

COURT'S ANSWERS: *No.*

So decided the Wisconsin Supreme Court (214 N.W. 329).

Telegrams—*Delayed Delivery*

PROBLEM: A telegram summoned a physician to attend an obstetric patient immediately. The wire was delayed and prolonged labor caused death of the child. Was the telegraph company liable in damages?

COURT'S ANSWER: *Yes.*

In so deciding, the Nebraska Supreme Court seems to have recognized that liability depended on whether the telegraph company realized that the addressee was a physician and was summoned as such. The telegram read: "Dr. Andrews: Come to L. C. Church's at once" (90 N.W. 878).

Washington LETTER

Congress To Consider Health Insurance Subsidies

FOR years, health planners have been interested in the idea of federal grants to health insurance groups to underwrite the policies of families unable to pay the premiums because of low income. Always in the past enough disadvantages have appeared to make the suggestions impractical, sometimes administratively and sometimes politically.

Now it seems that the proposal will be pressed again this year, perhaps with the support of the Eisenhower "middle-of-the-road" administration.

Subsidization of health insurance plans was one of the recommendations of the Truman Health Commission two years ago. It was to be expected that the Eisenhower administration, still in a partisan sweat from the election, would refuse to touch the Democratic commission's report. That is what happened. Neither the President nor Mrs. Hobby has made a single reference to the commission's findings. It was a little surprising, then, when two Republican Senators, Irving Ives of New York and Ralph Flanders of Vermont, drew up a comprehensive bill to improve the nation's health care, taking most of their ideas directly from the Democratic commission's report. The key proposal, of course, was for the federal government to make direct grants to states to subsidize health insurance for low-income families.

During the first Republican session, no notice was taken of the Flanders-Ives bill. The following fall, however, Chairman Charles Wolverton of the House Interstate and Foreign Commerce Committee came almost to the point of supporting the subsidies bill after his committee had held long exploratory hearings on the nation's health.

Before Mr. Wolverton had quite decided to back the subsidies idea, however, the administration produced its reinsurance program. Mr. Wolverton gave reinsurance all the

"And last week she wouldn't even let me hold her hand."

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(TREATMENT OF VAGINITIS)

"...but why should I have this trouble?"

"Vaginitis is not at all rare, and there are three common causes. Fortunately, we have one simple treatment effective for every type: **AVC** cream."

"With **AVC** cream you can expect relief of discomfort **promptly.** Continue treatment for a month to make doubly certain that the infection is eliminated **completely.**"

"A cream, by its very nature, is the most effective preparation for vaginitis. It has uniform concentration, it spreads, diffuses and penetrates; and **this** cream—**AVC**—with its low surface tension, seeks out and destroys the bacteria, fungi, or trichomonads causing the vaginitis."

"These instructions are certainly simple enough. . . ."

"Yes, and you'll find that while **AVC** cream effectively cures the infection, it will not irritate, is not greasy, and will not stain."

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Allantomide Vaginal Cream with 9-aminoacridine, 0.2%; sulfanilamide, 15%. 4-oz. tubes, plastic applicator.

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support he could, even to the extent of trying for a compromise after the bill had once been defeated in the House.

Now Secretary Hobby's Department of Health, Education, and Welfare appears to be finding more merit in the health insurance subsidies bill than in the Truman Commission report, where the subsidies idea originated. At this writing it is not definite that the administration will swing behind the Flanders-Ives principle, but Mrs. Hobby's people are interested.

One of the major obstacles for the administration is the subsidy principle. Repeatedly the Eisenhower experts, as well as the President, have denounced the theory of subsidies in the health fields. It may be that the matching formula—with the state putting up a specific share of the subsidy—will provide the dilution the administration is looking for. Also, state administration of the funds may keep the federal government the required distance from the individual who is receiving the financial help.

Whatever the Republican problems on this bill, the Democrats will not be bothered. With most of the Democratic leaders, the question will be not whether the bill goes too far but whether it goes far enough.

Although it is too early to say what the final bill will contain, some of the proposals include the following:

• The federal contribution to the various states is to be based on the population-and-per capita income formula used so successfully in the Hill-Burton hospital construction program. This would mean a federal contribution of one-third to

rapid relief

for coughs from colds or allergies

AMBENYL® EXPECTORANT

AMBENYL EXPECTORANT owes its special value to the action of *two* outstanding antihistaminics combined with other valuable agents. Benadryl,® noted for its antihistaminic-antispasmodic action, and Ambodryl,® with its high antihistaminic activity, act together to make coughing patients more comfortable. The antispasmodic, antiallergic, decongestant, and demulcent actions of pleasant-tasting **AMBENYL EXPECTORANT**

- quiet the cough reflex
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- decrease bronchospasm
- relieve mucosal congestion

AMBENYL EXPECTORANT contains in each fluidounce:

Ambodryl hydrochloride (bromodiphenhydramine hydrochloride, Parke-Davis)	24 mg.
Benadryl hydrochloride (diphenhydramine hydrochloride, Parke-Davis)	56 mg.
Dihydrocodeinone bitartrate	¼ gr.
Ammonium chloride	8 gr.
Potassium guaiacolsulfonate	8 gr.
Menthol	q.s.
Alcohol	5%

Supplied in 16-ounce and 1-gallon bottles.

dosage Every three or four hours—adults, 1 to 2 teaspoonfuls; children, ½ to 1 teaspoonful.

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one-half of the total subsidy in the rich states and two-thirds to three-quarters in the poor states.

• A limit—perhaps $15 annually—would be set on the federal contribution to each beneficiary. This could mean as much as $45 a year in health insurance for low-income people, with the family paying nothing. The limit would apply to individuals rather than family heads, so a large, low-income family might benefit from several hundred dollars of low-cost or free health insurance.

• Charges would be based on income, with the maximum rate possibly 3% of all income up to $5,000; no charge would be made against the share of the income over $5,000. When income dropped to a certain amount, no charge would be made for the health insurance.

• To participate, states would have to [1] match federal contributions in the amount set for the particular state; [2] appoint a state health council or other agency to administer the program; and [3] maintain a list of approved health insurance plans.

When and if this legislation reaches the voting stage, it will have to include all of these provisions, or alternatives. It will be aimed directly at the 20,000,000 or 30,000,000 persons who are unable to keep up their own premiums for health protection.

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BACITRACIN-TYROTHRICIN-NEOMYCIN-BENZOCAINE TROCHES

broader attack to overcome minor throat irritations

MAJOR ADVANTAGES: Combines 3 antibiotics to fight both gram-positive and gram-negative bacteria. Benzocaine included for soothing effect. Little danger of sensitization.

'TETRAZETS' quickly relieve minor mouth and throat irritations

It's new—a single troche containing 3 potent antibiotics (bacitracin, tyrothricin, neomycin) to combat afebrile oral infections.

'TETRAZETS' offer you the ideal topical treatment of minor irritations of the oral cavity.

In deep-seated infections, such as Vincent's infection, tonsillitis and streptococcus sore throat, 'TETRAZETS' may be used as an adjuvant to parenteral antibiotics.

Before and after tonsillectomies, 'TETRAZETS' help combat secondary invaders.

Supplied: In vials of 12. Each 'TETRAZET' troche contains 50 units of zinc bacitracin, 1 *mg.* tyrothricin, 5 *mg.* neomycin sulfate with 5 *mg.* benzocaine.

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FEDERAL EMPLOYEE STATUS

The 2,000,000 federal civilian workers have made known their demands regarding any health insurance plan that may be enacted for them. Currently, the federal government makes no contribution for its employees' insurance, nor are payroll deductions permitted. The bill now before Congress would authorize the deductions as well as a federal contribution.

Through their unions, the federal employees have requested the following:

1] A mechanism to preserve present voluntary plans, which have been maintained without federal help and without deductions from payrolls

2] Uniform, nationwide indemnity provisions, so that the low-cost areas will be eligible to receive the same cash sickness benefits as the high-cost areas. At the same time the unions want local groups of employees to have the right to accept the nationwide plan or arrange for a more advantageous local program if one is available.

OTHER INTERESTS

A summary issued by the Washington Office of the American Medical Association includes the following as likely for consideration by Congress this year: reinsurance; mortgage guarantees for health facilities; aid to medical education; revision of the public health grants

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(HEMATINIC CONCENTRATE WITH INTRINSIC FACTOR, LILLY)

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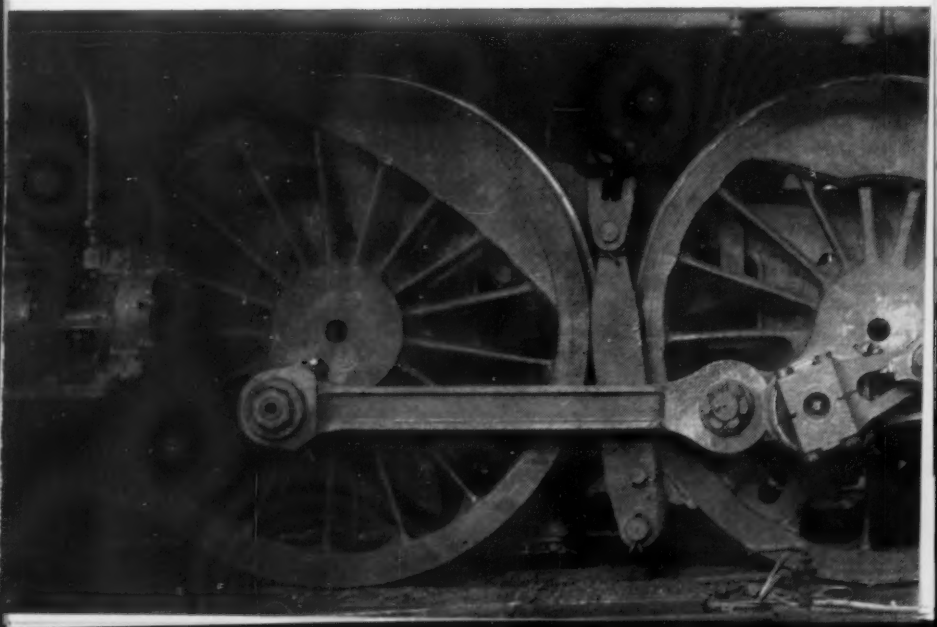

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Two Pulvules 'Trinsicon' provide:

Special Liver-Stomach Concentrate, Lilly (containing Intrinsic Factor).....300 mg. Vitamin B_{12} with Intrinsic Factor Concentrate, U.S.P.....1 U.S.P. unit (oral) Vitamin B_{12} (Activity Equivalent).....15 mcg.	These three ingredients are clinically equivalent to **1½ U.S.P. units** of APA potency.
Ferrous Sulfate, Anhydrous.....600 mg.	Equal to over **1 Gm.** Ferrous Sulfate, U.S.P.
Ascorbic Acid.....150 mg.	
Folic Acid.....2 mg.	

Note: Special Liver-Stomach Concentrate, Lilly, supplies, in addition to intrinsic factor, natural compounds that add the broad nutritional support so important in all types of anemia.

CONVENIENT—Therapeutic quantities of all known factors are provided in only two pulvules daily—the ideal dosage in most anemias.

ECONOMICAL—The cost of combined therapy with 'Trinsicon' is less than half what it was in 1950.

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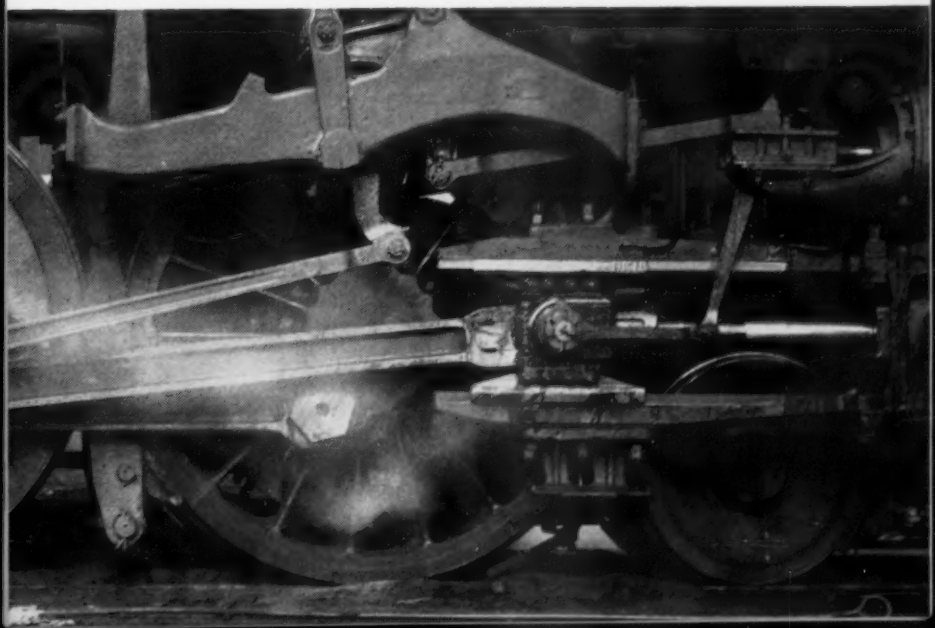

formula; and an expanded mental health program.

The report also forecasts considerable legislative activity in the field of military medicine. It suggests that an extension of the Doctor Draft Act may be requested by the Defense Department, along with a better system for medical care of military dependents and a program of military medical scholarships.

There is some possibility, according to the AMA summary, that the Treasury Department will change its position and accept legislation to allow self-employed persons, including doctors, to defer payment of income taxes on a part of their earnings to be put into retirement funds.

The Treasury is interested in a plan that would be open to employed and self-employed alike. If this is approved, the limits on the amount that may be set aside will be much tighter than those in retirement bills supported by the medical profession in other years.

Washington Notes

¶ Scientists in 215 research institutions are benefiting from U. S. Public Health Service grants of just over $10 million; 972 individual projects were given support.

¶ Statistics for most of 1954 indicate that the birth rate for that year will be the highest on record, and the death rate the lowest.

¶ PHS has agreed with a number of state boards of education that children's absences for dental appointments should not be charged as official. In addition to encouraging better dental care, it is pointed out that children often learn more about personal health care from the dentist than in hygiene classes.

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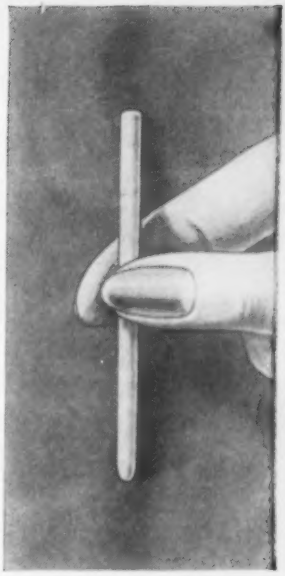
remarkably effective • easy to use



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Furacin Urethral Suppositories exert powerful antibacterial action against the majority of urethral pathogens . . . promptly soothe pain and burning. They do away "with the pain of urethral dilations and silver nitrate applications . . . The patient can easily use the medication at home herself . . ."[1]

1. Youngblood, V. H.: J. Urol. 70: 926, 1953.

Furacin Urethral Suppositories contain Furacin 0.2% and 2% diperodon•HCl N.N.R., the efficient local anesthetic, in a water-miscible base.

Package of 12, each wrapped in foil. Store in cool place to prevent melting.

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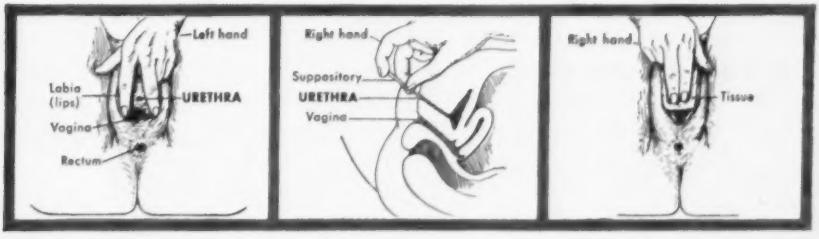

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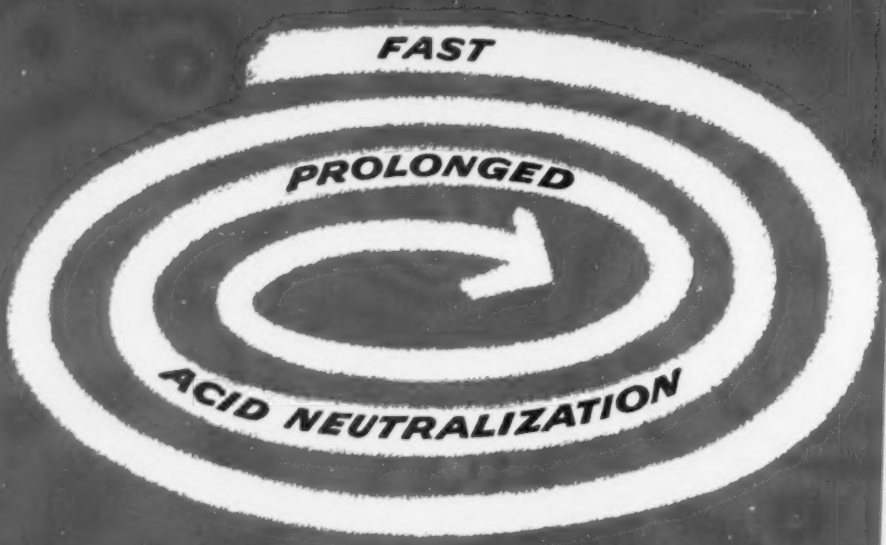

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1. Rossett, N.E., and others: Ann. Int. Med. *36*:98 (Jan.) 1952.
2. Jankelson, I.R.: Am. J. Digest. Dis. *14*:11 (Jan.) 1947.

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THE JOURNAL OF DIAGNOSIS AND TREATMENT

THE EDITOR'S PAGE

by WALTER C. ALVAREZ, *Editor-in-Chief*

The Early Feeding of Solids to Infants

A summary was recently published of the results of a questionnaire sent to all physicians in the United States interested in pediatrics. They were asked to report their feelings in regard to feeding solids to infants. A review of 2,000 replies showed that over 60% of pediatricians today are giving solid foods to infants, usually by the age of 6 weeks. Many said they have to do this because of the pressure brought to bear on them by mothers, half of whom want a big fat baby as soon as possible. Some of the doctors suspect that the present methods of feeding infants are faddish, and some expect the pendulum to swing back again.

A summary of the results of the questionnaire was sent to a group of leading pediatricians for comment. A number said they were not enthusiastic about present practices. They admitted that no one really knows whether it is better for infants to get solids early, and no one has yet made a study to show whether such feeding leads to the production of food allergy.

Perhaps the wisest statement was made by a pediatrician who said that what most strong infants can stand may injure the highly sensitive child of asthmatic parents. Dr. Bret Ratner pointed out that what probably saves most infants from becoming allergic is the fact that the cow's milk in their formula and the solid foods given have been so thoroughly cooked as to make the contained proteins less likely to produce sensitization.

No one seemed at all concerned over the question that interests me—this is, why most women who are well fed and often athletic cannot produce milk in their breasts and nurse their babies as their grandmothers did. Why should most of them be

discouraged from even trying to nurse their babies? Why shouldn't research be going forward to see if, with a little help, most of these women can have full breasts again?

I know that years ago, when Dr. Hinshaw and I asked 500 patients about food sensitiveness, 26% said they had discomfort with milk, and some 7% said they could not drink it at all. The inference was that they had been sensitized in infancy, but I had no statistics to prove this. It would be very interesting to ask a thousand men and women about milk sensitivity, to find out if most of those with it were raised on a formula and if most of those who are not sensitive were breast fed.

Old physicians who have practiced fifty years tell me that in their youth they rarely saw allergic children, while today they see hundreds of them. It is conceivable, of course, that in their youth the doctors failed to recognize many of the manifestations of allergy for what they were.

Hypertension and Occlusion of Arteries

In a recent number of *Circulation* (8:170-177, 1953), Arthur M. Master reported a study made to answer the question, "Does hypertension much favor the coming of coronary occlusion?" Apparently not in men, because among the group of men studied by Master, only 27% had had hypertension before the occurrence of coronary occlusion.

Several writers have emphasized lately that age is not the essential factor in producing atherosclerosis. This often starts in young people and is not a necessary accompaniment of the aging process.

In the men studied by Master, the first coronary attack came at an average age of 51.1 years. The first attack came at a slightly later age in the women, around 54.8 years. Hypertension had existed in 71% of the women. It may be, therefore, that hypertension is a factor in women.

My experience with hundreds of patients with occlusion of small arteries in the brain is that hypertension is not a necessary antecedent. One would expect this because, theoretically, the thrombosis of an artery anywhere should occur most easily when the pressure is low. This is why most small thromboses in the brain are likely to occur at night.

Special Article

The Treatment of Prostatic Cancer

WYLAND F. LEADBETTER, M.D.*
Massachusetts General Hospital, Boston

Prepared for Modern Medicine

BECAUSE of the great frequency of prostatic cancer in men over 50 years of age and the gradual and still increasing number of aging males in our population, the treatment of prostatic cancer is of considerable importance. The aim of the medical profession must be to cure when possible and otherwise to provide the best palliative therapy. Fortunately and unfortunately, palliation for this neoplasm is more effective than for most others—fortunately because long periods of symptomatic relief can be provided in many patients and unfortunately because many doctors are willing to rely on palliation alone and consider lightly their responsibility to detect early cancer for which radical operative surgery provides an exceedingly high survival rate.

EARLY DIAGNOSIS

Treatment can begin only after diagnosis is suspected or established. Curable cancer of the prostate is, in almost all instances, asymptomatic. Urinary tract symptoms are usually due to associated pathology—benign prostatic hyperplasia, prostatitis, cystitis, bladder calculus or tumor, or upper urinary tract disease. Because of symptoms referable to the genitourinary tract, patients ultimately visit a urologist and an occasional early prostatic cancer is thus found.

Most cancers must be discovered in the course of routine physical examination by general practitioners or internists. We must depend on this group of doctors for the earlier detection of prostatic cancer. Thousands of men in this country with early prostatic cancer amenable to radical surgery are certain to die of the disease because the diagnosis will not be established before onset of symptoms. There is some slight hope that reasonably early prostatic cancer can be detected through mass screening of men, using tests that detect minor elevations of serum acid phosphatase of prostatic origin. At present, however, we must rely entirely on rectal examination, which should be done carefully as an essential part of the physical examination of all older male patients.

Prostatic cancer usually begins in

*Chief of Urology, Massachusetts General Hospital; Professor of Urology, Tufts College; Assistant Genitourinary Surgeon, Harvard University, Boston.

the peripheral part of the gland beneath the prostatic capsule. Involvement of the prostatic urethra and bladder neck is a late phenomenon; therefore, the identification of neoplastic cells by the Papanicolaou technic in voided urine or prostatic secretion is highly unlikely in early cases.

An extension from a focus in the prostate is characteristically centrifugal, although not necessarily uniform, in the gland and is followed by involvement of perineural lymphatics and extension upward from the base of the prostate to the tissue around the seminal vesicles and pelvic lymphatics and glands. Invasion of the bones of the pelvis and the lumbar spine may be by way of either lymphatics or cells disseminated to the paravertebral system of veins which communicates freely with the periprostatic venous plexus. Pathologic study of prostatic glands removed by radical perineal prostatectomy indicates a high incidence of perineural involvement, but in many cases this remains local for considerable periods.

Pathologic characteristics of prostatic cancer aid early detection. Since areas of cancer usually develop in the posterior or lateral portion near the capsule, they are immediately palpable by the finger during rectal examination. Such areas are much firmer than normal—often stony hard—and are frequently palpable as projecting nodules. In some cases, the areas do not project but develop as flat plaque-like areas. Such lesions may have rough, craggy edges or may shade off gradually into the surrounding elastic prostatic tissue.

Any firm area in the prostate of a man over 40 years of age which does not soften by massage must be suspected as cancer. Differential diagnosis includes fibrosis from chronic prostatitis, infarct, tuberculosis, fibromyomas, and calculi. Stones may be visualized by roentgenogram but must be accurately localized in relation to the area of induration because calculi and cancer may coexist. Accurate diagnosis depends on biopsy, either by needle through the perineum or rectum or by open perineal incision. Biopsy by transurethral resection is of no value because tissue removed from about the urethra and bladder neck rarely shows cancer. Significant elevation of serum acid phosphatase does not occur while cancer is localized in the prostate.

Any patient with an abnormally firm area of the prostate should be referred to a urologist for cystoscopy, intravenous urography, metastatic bone series, and biopsy.

THERAPY FOR EARLY CANCER

Radical prostatectomy, introduced by Young for the cure of early prostatic cancer by the perineal route, involves total removal of the prostate, seminal vesicles, proximal segments of the ampullas of the vasa, and bladder neck, with anastomosis of the bladder neck to the stump of the membranous urethra. Recent studies by Jewett and others indicate a 50% five-year survival without clinical evidence of cancer after radical perineal prostatectomy and have stimulated re-

newed interest in the radical operation. It is now obvious from many reports that urologists have generally accepted the principle of early diagnosis and radical operation for cancer of the prostate. This point of view has been crystallized to some extent by the introduction of radical retropubic prostatectomy by Millin of England and its use in this country by Memmelaar, Lattimer, Chute, and others. It affords urologic surgeons unfamiliar with the perineal operation an opportunity to do radical prostatectomy.

The radical operation, performed through the perineum, has been considered difficult and associated with a high incidence of rectal injury and urinary incontinence. My experience, based on the performance of both the perineal and retropubic operations, indicates that the retropubic operation is no easier than the perineal. If anything, it is less satisfactory because of the added difficulty of performing anastomosis between the bladder neck and membranous urethra deep behind the symphysis pubis. An added disadvantage is the fact that biopsy is impossible until the membranous urethra is transected and the gland mobilized. One is, therefore, almost committed to the complete operation, whereas by utilizing the perineal operation when biopsy is negative, the wound may be closed without disturbing the continuity of the urinary tract. Morbidity and mortality are probably slightly lower in the perineal operation, which in my hands has given a mortality of 1% in a series of 100 cases. However, either operation, when properly done, removes the same structures and gives good results.

About 10% of patients will have some degree of incontinence which usually lessens or disappears within a few weeks or months. Complete permanent incontinence results from poor technical performance of the operation.

Our hope is that more than the present 5 to 10% of patients with cancer of the prostate will be found suitable for radical prostatectomy. This goal must be realized not by extending the limits of the operation, which will not cure more patients, but by earlier diagnosis. Even if cases are rigidly chosen on the basis of disease apparently confined to the gland, a significant number will be found with microscopic extension to tissues about the vesicles, often to the line of resection. Cure is unlikely in such cases and additional palliative therapy is required either when the true nature of the disease is ascertained or when recurrent cancer is demonstrated.

If biopsy shows cancer cells, radical prostatectomy should be done when a patient in good general condition is under 75 years of age and [1] a nodule or firm area is found in the prostate without palpable evidence of local extension into tissues about the vesicles; [2] roentgenograms are negative; and [3] serum acid phosphatase is normal. If needle biopsy has been negative, at least perineal exploration and biopsy should be performed.

EXTENSIVE CANCER

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prostate, metastasized, or both should be classified as extensive and no longer amenable to cure by conventional radical prostatectomy. Most urologists undoubtedly consider immediate orchiectomy and estrogen therapy the best that can be done. This is certainly true for patients with demonstrable metastases.

Statistical analysis of a large series of cases by Nesbit and Baum has apparently demonstrated the superiority of combining orchiectomy and subsequent stilbestrol administration. Survival was definitely lengthened by the combination. There is still uncertainty as to whether such therapy should be begun when disease is first diagnosed or after onset of symptoms. I suggest early treatment.

A few urologists have tried to cure rather than ameliorate disease confined to the general area of the prostate, perivesical tissues, and bladder base. These attempts have followed 3 lines of approach. The first, exemplified by Colston of Johns Hopkins and Scott of Rochester, N.Y., has been concerned with choosing cases with obvious early palpable extension about the seminal vesicles. Bilateral orchiectomy, stilbestrol administration, or both are carried out. If the process is favorably affected and palpable evidence of induration about the vesicles disappears, radical prostatectomy is subsequently done. Results to date suggest that longevity may be increased when cases are properly chosen.

Cure would seem quite unlikely unless cancer cells in lymphatics or in tissue adjacent to the prostate are completely destroyed by altering the steroid pattern of the body or unless all cancer has been surgically removed. The first seems unlikely or at least has not been demonstrated as yet. The second may be occasionally achieved. An advantage might conceivably be that removal of all neoplastic tissue except tiny foci in pelvic lymphatics may delay the onset of more distant metastases because of elimination of a large mass of cancerous tissue which would provide a source of neoplastic cells for dissemination. Much more clinical data must be available for study before this approach to the treatment of locally extensive prostatic cancer can be evaluated.

A second method employed has been radical prostatovesiculocystectomy and bilateral ureteroenterostomy. This operation is occasionally advisable in [1] young individuals without demonstrable metastases but with disease of the bladder base and tissues about the vesicles or [2] patients with disease of the apex of the gland and the triangular ligament in which conventional radical prostatectomy would leave total incontinence because of removal of the triangular ligament. I have used this method in 9 patients with long-term survivals in 4.

A third approach, introduced by Flocks at the University of Iowa, is the injection of radioactive gold in and about the prostate through a suprapubic incision and the open bladder. This work is currently being done in several other clinics. Uniform distribution through the

neoplastic tissue of the radioactive material is difficult and rectal radiation injury has occurred. Profound diminution in the neoplastic mass undoubtedly occurs when the procedure is well performed. No long-term information is available as yet regarding survival or possible cure since insufficient time has elapsed to evaluate the procedure properly, but Flocks is still enthusiastic about results to date. In the past, treatment by the introduction of radium needles has not been satisfactory.

All 3 types of therapy would seem worth further investigation. Perhaps, at present, these methods should be used after palliative attempts by orchiectomy and estrogen administration. A considerable degree of local involvement is no contraindication to surgery and, other things being equal, longstanding extensive local disease without demonstrable metastases suggests a possible good result because the lesion has demonstrated low malignancy by virtue of its duration. Furthermore, palliative therapy would seem just as effective for residual disease as if no other therapeutic effort had been made.

REACTIVATED CANCER

No alteration of the steroid pattern by any method yet devised has cured prostatic cancer. Sudden diminution of androgens produced by orchiectomy and estrogen administration apparently destroys many of the cells of a prostatic cancer, depending on the degree of androgen dependency. Then follows an as yet unpredictable period of control. Because of cellular inactivity of the cancer the local lesion does not increase in size and the patient is asymptomatic. In fact, when a satisfactory response is obtained, the malignant characteristic in the gland may not be recognizable by palpation. During this period, serum acid phosphatase is usually normal or almost so. Evidence of healing bony metastases is common.

After an interval of a few months to ten years, however, the cancer begins to grow again or reactivate. The average period of control is two to three years. Usually, the more extensive the disease or metastases, the shorter the period of control, but this is not always so. Probably the chief factor is the intrinsic characteristic of the cancer cells. In any case, stilbestrol or estrogen in any form or dosage fails to control the cause of the disease and the patient dies.

Attempts have been made by Huggins and others to correlate reactivation of prostatic cancer with increased excretion of androgens by the adrenal glands secondary to stimulation by the anterior hypophysis. On the basis of this reasoning, Huggins introduced bilateral adrenalectomy as a further palliative procedure. Care of patients after adrenalectomy has been relatively easy since cortisone has been available. Now bilateral adrenalectomy has been done by a number of urologists on a significant number of patients. Published reports and my own experience indicate that an additional period of palliation of cancer often results. Scott at Johns Hopkins has subjected a few patients to hypophysectomy with

improvement and, although this procedure is not likely to have many adherents, it may prove a useful investigative tool.

Scott and his associates, on the basis of demonstrated deactivation of androgen by the liver, have developed a method to shunt adrenal blood through the liver to destroy androgens in the venous blood, leaving the adrenal in situ. This has been accomplished experimentally in animals and more recently in man by first ligating all venous channels from the left adrenal gland except the main adrenal vein passing to the left renal vein. The spleen is then removed and anastomosis performed between the divided left renal vein and the splenic vein. When this shunt is working properly, the right adrenal gland is removed. Scott states that palliation has been satisfactory in a few patients. Again, this procedure is likely to be most useful experimentally.

Even when bilateral adrenalectomy has resulted in symptomatic improvement, the effect is usually short lived—a few weeks to a year. The course of disease does not seem in most cases to be affected and patients die. Furthermore, in my experience, a certain prediction of results has been impossible. The assumption is that if cancer cells are still capable of being stimulated by androgen they will again become inactivated if all sources of androgens can be eliminated from the body. One may infer this from elevated acid phosphatase or by demonstrating increased pain or further elevation of acid phosphatase by giving testosterone propionate.

Cortisone may be used to estimate androgen dependence and also as an effective therapeutic palliative. In doses of 100 mg. a day, cortisone apparently suppresses adrenal function by effect on the anterior hypophysis; the production of adrenal androgen is thus largely suppressed. A patient who responds well to cortisone might be expected to derive a good result from adrenalectomy. Perhaps the only reason for adrenalectomy at present is that the amount of cortisone necessary for replacement therapy can be significantly reduced to 25 or 50 mg. daily.

In my hands, cortisone therapy alone has been quite helpful in providing additional periods of palliation after disease has reactivated. Although some patients are not relieved, several with severe pain who were apparently dying from widespread metastatic disease have lived an additional year, in one instance eighteen months, after starting cortisone. The usual dose is 25 mg. four times a day. Often the dosage of the drug can be reduced after good initial response to 50 or even 25 mg. daily without recurrence of pain or other symptoms. However, once the patient has recurrence of symptoms, further increase in cortisone dosage is of no avail. One individual who had had excellent results from orchiectomy and stilbestrol for eight months was controlled perfectly by cortisone for eighteen months after reactivation. He then had bilateral adrenalectomy and was well for a few weeks only to die with very extensive disease a short time later.

One cannot predict at this time what the future may bring as the ideal palliative therapy for extensive cancer of the prostate. The subject cannot be closed without mentioning the problem of treating prostatic cancer unaffected by attempts at hormonal control. Presumably such cancers consist of undifferentiated cells which have little or no functional relationship to prostatic tissue. In these cases, the disease responds briefly or not at all to orchiectomy, stilbestrol, or cortisone. Bladder neck obstruction often occurs, requiring relief by transurethral resection one or more times. Metastatic lesions of the bones may subside briefly after deep roentgen therapy. Chordotomy may be necessary for relief of intense pain. Sometimes ureteral obstruction requires nephrostomy to avoid death by uremia. Fortunately, such lesions are associated with only about 20% of prostatic cancers.

The only real hope for improved results of treatment of prostatic cancer lies in earlier diagnosis and radical prostatectomy. This can be done only if the medical profession adopts a dynamic attitude toward the diagnosis and treatment of this disease.

Radioactive Iodide for Thyroidism

EARLE M. CHAPMAN, M.D., FARAHE MALOOF, M.D., JORGE MAISTERRENA, M.D., AND JORGE M. MARTIN, M.D., MASSACHUSETTS GENERAL HOSPITAL, BOSTON, find radioactive iodide effective for controlling hyperthyroidism caused by a diffusely hyperplastic gland. Observations are based on a study of over 400 patients treated with I^{131}, including 45 who have been watched for ten years.

The average dosage of I^{131} is 160 microcuries per estimated gram of thyroid. The biologic reaction to the radiation is gradual and may continue over several months. The average interval before the basal metabolism becomes normal is two months. If therapy isn't successful, a second dose is administered after six to twelve months. Once a euthyroid state is established, less than 1 person in 100 needs re-treatment. Myxedema is noted among 8% of treated patients and appears at about four months after therapy.

I^{131} radiation produces fibrosis and cellular damage in the thyroid, resulting in bizarre nuclear forms; yet some of the remaining follicles appear hyperplastic. Histologic sections from 44 thyroids after radiation did not show malignant disease.

The isotope is not used for nodular goiters; the incidence of carcinoma among persons with single nodules is high and multinodular goiters may diminish little in size after radiation therapy and may also harbor a cancer. Since fetal uptake of iodide begins in the fourth month, I^{131} is not used for women beyond this gestation time.

Ten years' experience with radioactive iodide. J. Clin. Endocrinol. 14:45-55, 1954.

Recognition of Periarteritis Nodosa

M. A. BLANKENHORN, M.D., AND HARVEY C. KNOWLES, JR., M.D.
University of Cincinnati and Cincinnati General Hospital

*Hypersensitivity angiitis and periarteritis nodosa are two distinct diseases and can be clinically differentiated.**

DEFINITE distinctions are apparent in periarteritis nodosa and hypersensitivity angiitis. With periarteritis nodosa, small and medium-sized arteries with muscular elements are affected. Lesions are located in the branches of the small arteries at the hilus of a viscus and commonly in muscle. Characteristically, the lesions are of various ages at one time. Proliferation precedes exudation, and granulation tissue and small aneurysms are evident.

Periarteritis nodosa may be classified as primary or secondary; the differences in morphology of the lesions are attributable to variations in the duration and extent of the disease process. Secondary involvement usually can be dismissed as an end stage of hypertensive renal disease.

With hypersensitivity angiitis, arterioles, venules, capillaries, and small arteries are involved, as well as small and medium-sized arteries of the muscular type. Lesions are located within the viscera and interstitial tissue and are all about the same age, with exudation. Associated findings are visceral interstitial inflammation, necrotizing glomerulonephritis, and fibrinoid pneumonia.

The clinical expression of the diseased vessels is determined by location. The kidney is involved in both conditions, and the incidence of hematuria is high. Uremia does not occur with primary periarteritis but is common with hypersensitivity angiitis. The gastrointestinal tract, heart, and pancreas are affected more frequently in periarteritis nodosa, and the spleen and lungs in hypersensitivity angiitis. Eosinophilia and peripheral neuritis are very common with periarteritis nodosa but rare with hypersensitivity angiitis.

Periarteritis nodosa is usually of long duration. Secondary disease is worsened by treatment which increases hypertension and infarction of vital organs.

Hypersensitivity angiitis is manifest as a fulminating disease characterized by fever, skin rash, nephritis, myocarditis, and, frequently, previous antigenic exposure. If the condition is recognized early as a sensitivity reaction, improvement may be rapid.

Recognition of the disorders depends upon diagnostic alertness and repeated muscle biopsies. Treatment is equivocal; ACTH or cortisone may be helpful.

*Periarteritis nodosa: recognition and clinical symptoms. Ann. Int. Med. 41:887-892, 1954.

Scleroderma: Manifestations and Therapy

IRVING LEINWAND, M.D., A. WILBUR DURYEE, M.D., AND MAURICE N. RICHTER, M.D.

New York University Post-Graduate Medical School, New York City

*Curative therapy is not available for scleroderma, but cortisone may arrest progress of the disease.**

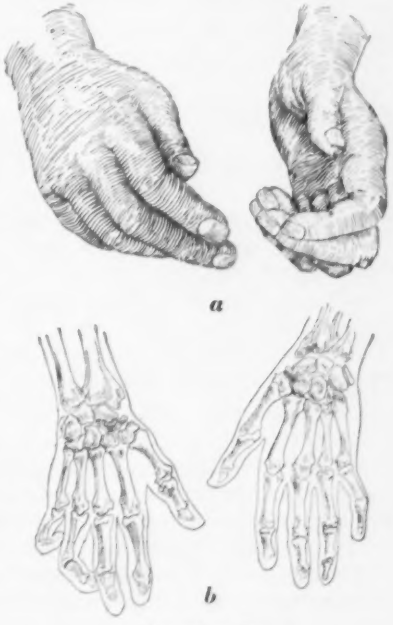
SIGNS and symptoms of scleroderma vary according to the location of the connective tissues involved. Lesions are rarely limited to a single system of the body.

Swelling and stiffness of the face and hands are the earliest symptoms. Pain in the joints almost always occurs and may precede the skin changes, leading to a diagnosis of arthritis.

Facial mobility is decreased so the patient may have difficulty opening his mouth. Skin wrinkles disappear and the lines of expression are smoothed out. The lips become thin and shortened; the nose becomes sharp and pinched. The skin appears shiny and swollen, cannot be picked up in folds or wrinkled, and may be firm and waxlike. After the acute stage, sclerosis occurs in the subcutaneous tissue, producing greater rigidity. The skin may become deeply bronzed.

The fingers become thickened and motion is limited. Contracture deformities may form. Ulcerations of the skin are common over the fingertips and joints but may appear anywhere. Ulcerations over the joints usually contain calcium deposits in the center. Depressed scars represent healed ulcers.

With sclerodactylia, the fingers are shortened and rounded, and the nails are decreased in size and curve over the finger tips (Fig. *a*). Roentgenograms show disappearance of terminal tufts (Fig. *b*).



Sclerodactylia

*Scleroderma (based on a study of over 150 cases). Ann. Int. Med. 41:1003-1041, 1954.

The patient is usually sensitive to cold. Raynaud's or simple vasospastic phenomenon may occur before, with, or after onset of scleroderma.

When the disease is disseminated, loss of weight, weakness, and fatigue develop early. Other symptoms may include headache, dysphagia, cough, vague abdominal pain, epigastric distress, constipation or diarrhea, palpitation and dyspnea from exertion, and mental depression.

Dilated capillaries or multiple areas of capillary hemorrhage may be scattered through the skin and mucous membranes. Body hair is sometimes lost with an increase of hair on extremities. Skeletal muscles may become atrophic. Breath sounds are often roughened. Cardiac enlargement with murmurs may lead to confusion with rheumatic fever.

No laboratory test is specific for scleroderma. Reactions to most tests are negative early in the course of the disease. Later, findings depend on the systems involved, as elevated urea nitrogen with renal failure. Though total protein is normal, an increase in the gamma globulin fraction may be noted. The erythrocyte sedimentation rate is elevated.

Alterations are detected on electroencephalograms of many patients, but no definite correlation with other manifestations of the disease has been established at the present time.

Scleroderma may be diffuse or circumscribed. The circumscribed type is not always localized since organ involvement may be demonstrated. The course of the disease follows no set pattern. The condition may be fulminating and rapidly fatal or may remain arrested throughout a normal life span. Periods of arrest and exacerbation are common.

Of 150 instances of the disease, 25 were circumscribed. Over two-thirds of the patients were female. Age of onset varied from 3 to 65 years, but most patients were between ages 20 and 50. All but 3 patients were white-skinned persons. The disease is not familial.

Cortone was administered to 8 patients with severe disease. All but 1 improved and are ambulatory, though a 50% mortality rate had been expected. The other patient discontinued therapy against advice and died.

¶ SUPPRESSION OF THYROID SECRETION is induced by prolonged administration of extract of the gland. Evaluation of thyroid function may require five months after cessation of medication, report Elmer C. Bartels, M.D., and Gordon K. Higgins, M.D., of the Lahey Clinic, Boston. During this period patients may have weakness, lassitude, fatigue, and low basal metabolism. Serum cholesterol is a valuable guide in the determination of the extent of glandular function.

Lahey Clin. Bull. 9:48-51, 1954.

Parenteral Fluid Therapy

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AND A. A. CAMARA, M.D.
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*Deficits of plain water and extracellular fluid volume should be corrected simultaneously when secretions from the gastrointestinal tract are replaced.**

WHEN gastric juices are depleted, proportionately more water than electrolyte is lost. Although all gastrointestinal secretions have the same osmolar concentration as extracellular fluid, solids other than electrolytes, such as mucin and pepsin, bring the osmotic pressure of the intestinal juices up to the level of the interstitial fluid of the secretory membrane.

Saliva, which is almost entirely water, is lost in volumes up to 1,500 cc. each day during periods of gastric suction or vomiting. Diarrheal stools often contain more water than electrolytes.

Additional water is lost in the form of vapor during respiration. Sweat is a hypotonic solution. During febrile periods, the body gives off heat by vaporization of insensible perspiration. Up to 2 liters of water may be necessary each day to replace losses from the skin and lung when the temperature is elevated.

Loss of extracellular fluid volume produces hypovolemia and, eventually, shock. Depletion of plain water causes oliguria with subsequent retention of solid wastes. When both deficits are replaced, renal function resumes and electrolyte deficiencies become corrected promptly.

A mixture of 500 cc. of 5% dextrose in water and 500 cc. of 5% dextrose in isotonic saline is a satisfactory solution for replacement therapy. If more chloride than sodium is desired, intravenous infusion of 4.5 gm. of ammonium chloride and 20 gm. of dextrose per liter of water is recommended. An excess of sodium over chloride may be given by adding 40 to 80 cc. of molar sodium lactate to 1 liter of 5% dextrose in water. When potassium chloride supplement is required, 1 to 3 gm. may be added to 1 liter of 5% dextrose in water.

Hypertonic electrolyte solutions are almost never necessary. If electrolyte loss occurs without dehydration, the organism maintains an adequate volume of extracellular fluid, rather than electrolyte concentration. Administration of an isotonic solution alone or a hypertonic mixture may cause retention

*The importance of simultaneous correction of plain-water deficits and extracellular fluid volume loss when replacing fluid and electrolyte loss from the gastrointestinal tract. Gastroenterology 27:531-543, 1954.

of water and subsequent heart failure.

Relatively large amounts of plain water replacement do not wash out sodium and chloride in the urine. On the contrary, the kidney secretes accumulated waste products such as urea but retains electrolytes, and hyponatremia and hypochloremia are corrected. The replacements do not cause pulmonary edema or water intoxication. Patients in deep coma after convulsions can be expected to improve rapidly.

Concentration of the plasma and necessity for fluid replacement cannot be determined from the level of plasma sodium. Hyponatremia may coexist with high plasma specific gravity.

¶ ACTIVITY OF PHENYLBUTAZONE (Butazolidin) is specifically antirheumatic, not analgesic, in relieving joint pain and swelling. Michael Kelly, M.D., of Melbourne believes that the pyrazol derivative is more valuable than cortisone, suppressing a wider range of rheumatic disorders. The substance can be safely used in patients less than 65 years old without chronic ailments if after the first two days the dosage is kept below 400 mg. daily and if treatment is stopped as soon as toxic effects appear.

M. J. Australia 2:504-507, 1954.

¶ TREATMENT OF IRRITABLE COLON with barbiturates may be effective because of antispasmodic as well as sedative action of the drugs. When Sodium Amytal was given to patients with symptoms of colonic disturbance, Marvin J. Rosenblum, M.D., of the University of Pennsylvania, Philadelphia, and Alvin J. Cummins, M.D., of the University of Tennessee, Memphis, observed that colonic hypomotility during induced sedation simulates the action of natural sleep. Activity resumes when the patient awakens.

Gastroenterology 27:445-450, 1954.

¶ ESOPHAGEAL VARICES may be indicative of hepatic disorders other than cirrhosis and portal vein disease. Of 62 patients with noncirrhotic liver disease, report Lt. Col. Eddy D. Palmer, M.C., U.S.A., and Irving B. Brick, M.D., of the Walter Reed Army Hospital and Georgetown University, Washington, D. C., varices were observed in 4 of 7 with chronic heart failure, in 8 of 14 with viral hepatitis, in 8 of 24 with simple portal fibrosis, and in 2 other cases. Portacaval anastomoses across the gastroesophageal junction may react to increased portal pressure by becoming varicose; however, these varices are not necessarily the cause of hemorrhage.

Am. J. Med. 17:641-644, 1954.

Management of Hemorrhagic Diseases

EDWIN E. OSGOOD, M.D., ROBERT D. KOLER, M.D.,
AND MARGARET E. HUGHES
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*A careful history and physical examination are more important than laboratory tests in detecting significant bleeding tendencies.**

THE hemorrhagic diseases can be classified into 3 general groups, according to the underlying hemostatic defect and the manifestations of bleeding. These include capillary and thrombocyte anomalies and plasma coagulation defects. Most of the disorders are acquired.

During the physical examination, bleeding or icterus is sought in the skin, mucous membranes, and ocular fundi. The depth of petechial or associated urticaria is noted. Sites of bleeding are examined for capillary telangiectases. Lymph nodes, spleen, and liver are also inspected. Swelling or limitation of motion of joints and tenderness over bones are observed.

The following tests should be done in investigation of patients suspected of having hemorrhagic disease: a one-stage prothrombin, Lee and White coagulation time, clot retraction, bleeding time, and stained blood smear for appearance of leukocytes and thrombocytes. The results of 3 of the tests will aid classification of the disorder.

• The most common causes of capillary purpuras are *food allergy* and *drug idiosyncrasy*. With allergy, thrombocytopenia is not associated, although an allergen may cause thrombocytopenia, increased capillary fragility, or both in the same person at different times. The most probable mechanism is local release of histamine, increased capillary permeability, and transudation of erythrocytes and protein. For severe disease, corticoids—cortisone, hydrocortisone, and corticotropin—and antihistamines relieve symptoms. Associated angioneurotic edema of the gastrointestinal tract is controlled by 0.2 to 0.4 cc. of surgical Pituitrin intramuscularly.

Mechanical capillary purpura occurs after sudden increases in venous pressure, as during whooping cough, delivery, or weight lifting. Petechiae occur most frequently on the head and upper extremities. Hypertension may also cause increased capillary fragility.

Infectious diseases such as scarlet fever, smallpox, and bacteremia may be accompanied by generalized petechial rash. The defect is probably capillary damage from toxins or direct involvement of capillaries by the organism. Antibiotics should be administered.

*Differential diagnosis and treatment of hemorrhagic diseases. Arch. Int. Med. 94:956-969, 1954.

Deficiency of vitamins, decreased elastic tissue, noncontractility or telangiectasis of capillaries, and metabolic disturbances may also be implicated.

• With the thrombocytopenic and thrombocytopathic purpuras, spontaneous purple hemorrhages are noted deep in the skin and are usually associated with bleeding gums or, in women, menorrhagia. Clot retraction is delayed or absent, capillary fragility is increased, and bleeding time is prolonged.

Idiopathic forms are most common in persons under 40 years of age. Women are affected more often than men. Thrombocyte agglutinins are demonstrable in the sera of 30 to 60% of patients and are frequently correlated with pregnancy or multiple blood transfusions. Differential diagnosis is based on examination of marrow.

Therapy includes bed rest, corticoids, fresh blood transfusions, and topical thrombin. Spontaneous remissions may be permanent. Splenectomy is done only when conservative measures fail.

Allergic thrombocytopenia commonly is caused by extrinsic allergens, particularly Sedormid and quinidine. Therapy must include removal of the allergen and chemically related substances. Splenectomy has no value.

A *hypoplastic* thrombocytopenic purpura may occur singly or in combination with erythrocytic and granulocytic hypoplasia. The number of megakaryocytes in the marrow is greatly decreased. Therapy is directed at the noxious agent or underlying endocrine disturbance.

• Coagulation defects may occur as a result of abnormalities of plasma components. *Hypoprothrombinemia* is one of the most common. Bleeding appears as spontaneous petechiae and posttraumatic ecchymoses and hematomas. Obstructive jaundice and severe prolonged diarrhea may cause the condition by impairing absorption of vitamin K. Severe liver damage interferes with the production of prothrombin even when the intake of vitamin K is adequate. Transfusions of blood or plasma and topical treatment of accessible areas control bleeding.

Hemophilia is apparently caused by a sex-linked recessive characteristic. The antihemophilic factor should be administered in the form of fresh whole blood, fresh plasma, reconstituted lyophilized fresh plasma, or Fraction I. Restriction of activities is necessary to avoid all forms of trauma.

Deficiency in the *plasma thromboplastin component* is indistinguishable from hemophilia clinically or by routine coagulation studies. Diagnosis depends on demonstration of prolonged coagulation time corrected by addition of one-tenth volume of normal serum incubated twenty-four hours at 37° C. but not corrected by addition of one-tenth volume of fresh normal plasma treated with barium sulfate. Administration of fresh or stored blood or plasma is effective therapy for one to two weeks. Fraction I is ineffective.

Bleeding from deficiencies of *acglobulin* and *serum prothrombin conversion accelerator* is hemophilic in type. Prothrombin concentra-

tion by the one-stage test is low. The condition is often hereditary but may also be caused by inandione and coumarin compounds, severe liver disease, or fulminating infections. Bleeding is stopped by fresh whole blood or plasma and withdrawal of Dicumarol or Tromexan ethyl acetate.

Defects caused by fibrinogenopenia, fibrolysin, and anticoagulants are rare but should not be overlooked in the differential diagnosis of hemorrhagic disease.

Cervical Disk and Intermittent Traction

HARRY A. SHENKIN, M.D., EPISCOPAL HOSPITAL, PHILADELPHIA, reports good results of motorized intermittent cervical traction in a group of patients with pain in the neck and upper extremity caused by a disturbance of the cervical spine.

Pain in the neck and shoulder or upper extremity is frequently produced by pressure on the cervical nerve roots from herniations of the cervical intervertebral disks or from compression of the roots in the intervertebral canals. The cervical spine is liable to acute injury or chronic and repeated strain because of great mobility and relative lack of support. Acute trauma may be sustained by occupants of a car struck suddenly from the front or rear. Frequently, the syndrome appears after sudden and abrupt turning of the head when the supporting muscles are relaxed. The patient may not recall specific trauma but report recurrent stiff neck or cricks in the neck.

Ligamentous strain may provoke sufficient spasm to cause a loss of the normal cervical lordotic curve. The disturbance in posture of the cervical spine can cause cervical root compression, since cervical intervertebral canals are narrow and filled by spinal nerves.

Pain occurs in the distribution of the nerves involved. Roentgen-ray examination shows straightening of the lordotic curve and frequently reveals narrow intravertebral spaces. Physical examination may demonstrate focal muscular weakness, tendon reflex changes, and, occasionally, sensory changes.

Motorized intermittent traction was used for 27 patients with sufficient pain to warrant laminectomy who had had conservative treatment, often including conventional traction. Recovery occurred in 16 patients and 6 improved satisfactorily. The remaining 5 patients required surgical treatment.

Motorized intermittent traction for treatment of herniated cervical disc. J.A.M.A. 156:1067-1070, 1954.

Anesthesia for Electroconvulsive Therapy

RANALD J. M. STEVEN, M.B., RALPH M. TOVELL, M.D., AND JAMES C. JOHNSON, M.D.
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Institute of Living, Hartford, Conn.

*Succinylcholine derivatives in combination with Pentothal Sodium anesthesia eliminate the psychic and physical trauma of electroshock treatments.**

When electroshock therapy is used alone for mental disease, the convulsions often cause fractures and dislocations of vertebrae and long bones. Long-acting muscle relaxants such as curare and decamethonium and spinal anesthesia decrease the severity of the convulsions, but since large doses of these agents are necessary, respiratory depression, occasionally fatal, may occur.

To prevent prolonged paresis and to eliminate the disagreeable prodromal period before loss of consciousness, succinylcholine salts are given jointly with Pentothal Sodium anesthesia. Duration of the muscle relaxant effect of succinylcholine depends upon the amount of pseudocholinesterase in the circulating plasma. Recovery usually occurs within five minutes after injection. The patient's fear of muscular fasciculations is suppressed by the anesthesia.

When a patient is considered a suitable candidate for electroconvulsive therapy, electrocardiographic tracings and complete roentgenograms of the spine are made. The full physical report is studied by the anesthesiologist as an aid in determining dosages. Treatments are given in individual rooms equipped with oxygen, bag, mask, laryngoscope, and endotracheal tubes. Therapy is given in the morning and breakfast is withheld until after treatment. Premedication is usually unnecessary.

The patient lies down with his feet toward the head of the bed. About 6 to 8 cc. of Pentothal Sodium is administered intravenously in a 2.5% solution. When the patient is just asleep, succinylcholine dichloride is given through the same intravenous needle. The usual dose is about 40 mg.

The psychiatrist applies the electrodes and after cessation of muscular fasciculations, the patient's lungs are inflated with pure oxygen through the face mask. Easy inflation signifies complete muscular relaxation.

A gag is placed between the patient's teeth, and the current is administered. Instead of the intense tonic convulsion with opisthotonus and severe clonic contraction seen

*Anesthesia for electroconvulsive therapy. Anesthesiology 15:623-636, 1954.

when muscle relaxants are not used, a slight tonic contraction of the distal extremities occurs, succeeded by clonic contractions of the muscles of the feet, hands, and face. In some patients, the convulsions spread from the head downward.

Inflation of the lungs with oxygen resumes during clonic convulsions. After the onset of spontaneous respiration at the end of the convulsive period, the patient is placed on his side to allow secretions to run out of the mouth. Sideboards of the bed are raised and the patient is observed constantly by a nurse during the period of recovery.

¶ VENOUS ANEURYSMS OF THE MEDIASTINUM are demonstrable roentgenographically and should be considered when diagnosing some types of mediastinal widening. In 2 patients with varicosities of the superior vena cava, Ted F. Leigh, M.D., and associates of Emory University, Ga., found that anomalous pulmonary drainage existed. Dilation of the hemiazygos and azygos veins in 2 other persons probably was the result of atheromatous changes in these vessels and portal and pulmonary abnormalities.

Radiology 63:696-705, 1954.

¶ COLONIC EXAMINATION by double-contrast study may be made immediately after a barium enema if methyl cellulose is included in the enema mixture. Donald A. Zalac, M.D., of General Hospital, Indianapolis, finds that the addition of 1 tsp. of Cologel to the usual mixed canful of medium prevents precipitation of the metal on the intestinal wall without distorting the roentgenographic appearance. Because dependent areas are somewhat obscured, roentgenograms are made in both the anteroposterior and posteroanterior positions.

Am. J. Roentgenol. 72:1041-1044, 1954.

¶ ALLERGY TO CONTRAST MEDIA used in intravenous urography may be prevented by concomitant administration of antihistamines. S. William Simon, M.D., Henry I. Berman, M.D., and Saul A. Rosenblum, M.D., of Brown General Hospital, Dayton, Ohio, report that the incidence of allergic reactions was reduced from 17.3% to 7.1% among 530 patients when 5 to 10 mg. of Chlor-Trimeton was added to Diodrast or Neo-Iopax. Vasomotor reactions are not affected but may be reduced by injecting 1 cc. of solution slowly and, after one minute, giving the remainder rapidly. A 22-gauge needle should be used.

J. Allergy 25:395-399, 1954.

Prevention of Ileostomy Dysfunction

GEORGE CRILE, JR., M.D., AND RUPERT B. TURNBULL, JR., M.D.
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*The serosal surface of an ileostomy should be protected by a mucosal graft to prevent malfunction.**

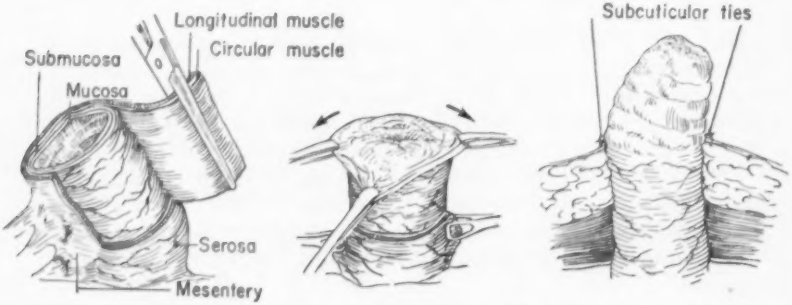
EXCESSIVE fluid and electrolyte loss after ileostomy is caused by partial obstruction of the protruding segment. The block can be demonstrated by roentgenograms and exists even though a tube or finger can be passed.

With ileostomy, a segment of unprotected ileum is suddenly exposed to the septic environment of the fecal stream. A succession of changes takes place for four to six weeks before spontaneous eversion of the mucosa is completed. Obstruction persists during this maturation period. Serositis, which is actually peritonitis, is noted the third or fourth day, and edema, rigidity, and loss of peristalsis of the exteriorized segment result.

A sliding mucosal graft over the ileal segment not only protects against serositis but also prepares the ileostomy for immediate acceptance of a leakproof appliance.

The ileostomy is made during the same operation as colectomy through a stab wound in the right lower quadrant of the abdomen. A disk of skin is excised, and the underlying structures are split longitudinally. At least 2 in. of ileum is brought out, and the mesentery is sutured to the peritoneum inside the abdomen. Mesentery of the protruding segment is divided and fixed to subcuticular fascia with No. 0000 atraumatic suture.

About ¾ in. from the abdominal skin, a circumferential incision is made through the muscular layers to the submucosa. Another cut is made from this incision to the end of the ileostomy. The seromuscular layers are grasped with a hemostat



*The mechanism and prevention of ileostomy dysfunction. Ann. Surg. 140:459-466, 1954.

and stripped in a circular manner from the submucosa. Small perforating vessels are ligated with No. 0000 catgut. While Babcock clamps steady the stump, the mucosa-submucosa tube is turned inside out and pulled down over the stoma. The mucosal graft is sutured to the skin edge (see illustration).

No tube is placed in the ileostomy, and the stoma is never dilated. By the tenth postoperative day, a permanent appliance is fitted. The ileostomy changes little in appearance, and edema is slight.

Among 28 consecutive patients who had colectomy and simultaneous ileostomy, 15 had classic and 13 had mucosal-grafted ileostomies. Only 4 of the latter group required parenteral fluids after the fifth postoperative day while 12 of the patients with classic operations needed prolonged replacement therapy.

Thoracotomy for Hemopneumothorax

MARK H. WILLIAMS, M.D., JOHN C. CARMEN, M.D., AND DAVID M. SEYMOUR, M.D., BINGHAMTON CITY HOSPITAL, BINGHAMTON, NEW YORK, recommend early thoracotomy for patients with spontaneous pneumothorax accompanied by massive intrapleural hemorrhage.

Hemopneumothorax is almost never tuberculous but is caused by rupture of an emphysematous bleb. The disease is most common in young males. Initial symptoms are pain, dyspnea, and dry cough. Hemorrhage may occur at the onset but is often delayed from twenty-four to forty-eight hours. Bleeding, when delayed, is usually caused by tearing of an apical vascular adhesion.

Closed thoracotomy and subaqueous deflation, preceded by catheter aspiration of the hemothorax, if necessary, apparently are adequate initial measures if the patient is seen early. Emergency operation is not necessary if deflation and blood replacement are adequate.

Immediate surgery is probably advisable if hemorrhage continues for twelve to twenty-four hours or if more than 1,000 cc. of blood is lost. Another sign for an emergency procedure is an initial red cell count of 2,500,000 or less with shock necessitating more than 500 cc. of blood every eight hours.

Dextrose and water can be infused during operation, in addition to continuous blood transfusion. The least possible amount of anesthetic should be used. Respiration is assisted and thoracotomy should be rapid. The patient can be expected to improve immediately after blood and clots are evacuated from the pleural space and the lung is reexpanded.

Emergency thoracotomy for massive spontaneous hemopneumothorax. New England J. Med. 251:888-891, 1954.

Automobile Collision Injuries

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*Information regarding nature, location, and source of injury in automobile accidents provides a basis for the development of protective measures.**

THE main cause of injury in automobile accidents is the uncontrolled motion of the occupant in relation to that of the car. In head-on collisions, the individual is thrown forward at approximately the speed of the automobile at the instant preceding the accident, with resultant impact against the steering wheel, windshield, or dashboard. The rate of deceleration under such circumstances may be many times that of the acceleration of gravity. Strains or sprains may result from concomitant twisting or wrenching.

With abrupt acceleration, as with collisions from the rear, the automobile is thrust forward beneath the occupant, who is thrown backward. A whiplash injury results when the head and neck are snapped backward or when such hyperextension is overcorrected.

Various measures have been suggested to provide protection against the effects of acceleration. A well-known example is the seat belt, which is securely anchored to the frame of the automobile and holds the occupant firmly and squarely in the seat. Despite cheap cost and ease of installation, however, the seat belt is not widely accepted.

The adoption of other protective measures would require appreciable change in automobile design and construction. A representative listing includes: [1] elimination of all sharp edges and projections; [2] adoption of push-button controls and recessed fittings; [3] generous use of padding throughout the car; [4] use of plastic or "pop-out" windshields; [5] installation of a flexible joint in the steering column which will yield under pressure or adoption of aircraft-type levers instead of the steering wheel; [6] installation of nonrigid dashboards; [7] elevation of the backs of the seats to support the head and neck; [8] use of locking or anchoring devices in all seats; [9] installation of periscope rearview mirrors; [10] use of body construction material which will deflect or absorb the force of impact; and [11] installation of shock-absorbing bumpers.

Among 1,475 persons in automobile collisions, two-thirds of the injuries were caused by impact or crushing, usually involving the head, arms and shoulders, or legs. The remainder were the result of whiplash, wrenching, or protective rotation and commonly affected the neck, arms and shoulders, or back.

*Automobile collision injuries. Surgery 36:1059-1064, 1954.

The main source of impact injuries was the side of the automobile.

Injuries of the drivers were mainly of the head and neck, arms and shoulders, or back, while the passengers usually sustained injuries of the head and neck, arms and shoulders, or legs and pelvis.

Since changes in design or structure of automobiles would involve considerable expense, such steps are not likely to be taken by manufacturers until the needs for specific protection are established by accumulation of data from many observers.

Total Gastrectomy for Gastric Cancer

SAMUEL F. MARSHALL, M.D., AND HERBERT URAM, M.D., LAHEY CLINIC, BOSTON, state that total gastrectomy for cancer of the stomach does not increase the five-year survival rate and is not always justified. A high incidence of cures results only when surgery is performed early for malignant tumor which is limited to the stomach.

Initial symptoms include epigastric pain and discomfort, anorexia, and nausea. Vomiting, weight loss, hematemesis or melena, and anemia are often late manifestations. Achlorhydria is noted in about one-third of patients.

Roentgen diagnosis is accurate in over 90% of instances. Cytologic and peritoneoscopic studies are valuable when the radiologic procedure fails. Gastroscopic examination is employed to differentiate gastric ulcers, gastric polyps, and chronic gastritis.

Malignant tumors of the stomach may metastasize to regional lymph nodes, blood vessels, and adjacent organs. Cancer always extends beyond the visible and palpable limits of the lesion. To extirpate cancer, complete excision of regional vascular and lymphatic drainage areas is mandatory, and is practically impossible.

Total gastrectomy should be employed only when the radical procedure is necessary to resect all diseased tissue and complete removal seems possible. The surgeon should be prepared to extend the abdominal incision into the thoracic cavity if necessary and should be able to proceed with a radical total removal of the stomach and complete excision of all lymphatic drainage areas. Excision of the pancreas, transverse colon, and left lobe of the liver may be necessary (see illustration).

Total gastrectomy for gastric cancer: effect upon mortality, morbidity, and curability. Surg., Gynec. & Obst. 99:657-674, 1954.

Repair of Large Inguinal Hernias

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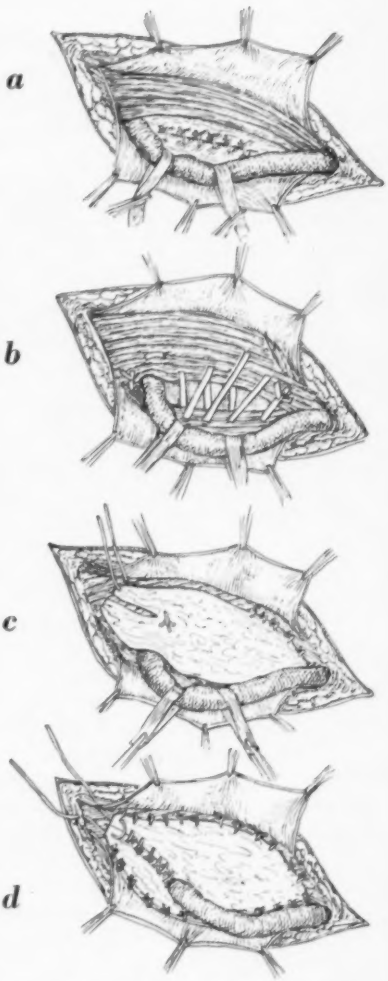
*A combined cutis strip and patch method is recommended for the surgical correction of difficult inguinal hernias.**

THE recurrence rate after repair of large inguinal hernias of long standing is high. The tissues are extremely poor and the gap to be bridged is usually wide. Therefore, repair with a long strip of de-epithelized cutis and supplemental patch may be satisfactory for patients with [1] large indirect scrotal hernias of ten to fifteen years' duration; [2] large direct hernias admitting three fingers; and [3] massive inguinal hernias with thinned-out tissues lacking plastic power.

Three days of preoperative skin preparation are needed to lessen the possibility of infection. A strip of cutis 30 cm. long and 0.5 cm. wide is cut from the opposite thigh after removal of a Thiersch graft which is afterward used to cover the donor area. A patch of skin larger than the denuded defect is dissected and both the strip and patch are thoroughly freed of fat.

High ligation of the hernial sac is done and the area is carefully cleared of all areolar tissue; the transversalis fascia is either sutured or invaginated by tucks (Fig. *a*).



*Cutis strip and patch repair of large inguinal hernias. New England J. Med. 251:932-934, 1954.

The cutis strip is threaded to a Gallie needle, and suturing is begun at the pubic tubercle (Fig. *b*).

Cooper's ligament and the inguinal ligament below are united to the lateral border of the rectus muscle sheath and conjoined tendon above. The strip is kept under tension and some of the turns are anchored by cotton stitches to adjacent tissues. To avoid constriction of the spermatic cord at the internal inguinal orifice, the strip is inserted only through the upper border of the ring and then continued laterally for a short distance.

The cutis patch is next laid over the area of repair (Fig. *c*) and sutured medially to the periosteum of the pubis and to the rectus sheath. The graft is sutured above to the internal oblique muscle and below to the inguinal ligament. The spermatic cord emerges through a slit in the patch graft which is protected from further slitting by cotton sutures (Fig. *d*). In order to obliterate dead space, some of the sutures above are rethreaded, passed through the cutis patch, and tied over the superficial surface.

The cutis patch is then sutured along the lower border to the inguinal ligament. A few sutures are passed through the upper edge of the patch and through the upper leaf of the external oblique muscle. With a final single stitch, the outer slit end of the cutis patch is deeply fixed to the internal oblique muscle and to the external oblique muscle superficially.

Penicillin parenterally and sulfadiazine by mouth are given routinely. Occasionally, oxytetracycline or chlortetracycline may be advisable. Excision of the epidermis and use of the cutis strip and patch under tension quickly result in atrophy of remaining sebaceous glands or hair follicles, eliminating the possibility of cysts or inclusions.

Surgical Risk in Cardiac Patients with Cancer

MENARD M. GERTLER, M.D., ALEX L. FINKLE, M.D., PERRY B. HUDSON, M.D., AND ESTELLE G. NEIDLE, M.S., FRANCIS DELAFIELD HOSPITAL, COLUMBIA-PRESBYTERIAN MEDICAL CENTER, AND COLUMBIA UNIVERSITY, NEW YORK CITY, believe that, with judicious use of digitalis and other cardiac drugs and general or spinal anesthesia, proper regulation of fluids and electrolytes, and adequate blood replacement, extensive radical procedures may be done with safety in cancerous patients with cardiac abnormalities.

In the age group in which cancer is most often detected, heart disease frequently coexists. Surgical risk is increased by a preoperative electrocardiographic abnormality, particularly bundle-branch block. If [1] congestive heart failure, [2] enlarged heart, [3] previous congestive failure, or [4] cardiac arrhythmias exist, careful preparation of the patient is necessary before surgery is undertaken.

Cardiovascular evaluation in surgery. Surg., Gynec. & Obst. 99:441-450, 1954.

Therapy of Primary Breast Cancer

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Stanford University, San Francisco

*Simple mastectomy and vigorous postoperative radiotherapy is often the preferred treatment for primary operable breast carcinoma.**

MAMMARY carcinoma is fundamentally a problem of cancer outside the breast. When the disease is confined to the breast, simple mastectomy is often sufficient. When tumor has spread beyond the breast, radical mastectomy cures only those patients with disease confined to the chest wall or axilla.

The Halsted radical mastectomy is of greatest value when the tumor has spread by lymphatic routes only. Unfortunately, recent evidence indicates that blood-borne metastases are at least as frequent as lymphatic metastases. Sternal bone marrow examination often reveals involvement in early cases. Apparently, the vertebral veins contribute to this early spread by allowing reflux of tumor emboli to ribs, pelvis, femur, and humerus before metastases appear in the lungs.

Breast lesions are not considered operable when: [1] more than one-third of the skin of the breast is involved with edema; [2] satellite nodules exist in the breast skin; [3] carcinoma is inflammatory; and [4] the cancer is locally far advanced.

Because a large number of breast cancers are already beyond the scope of surgical removal when first seen and because radical operation may actually shorten survival time of some patients, simple mastectomy in combination with radiation has definite advantages:

- The procedure is safer and has a lower morbidity rate than radical surgery.
- Complications such as postoperative arm edema are fewer.
- Less handling of cancer tissue reduces spread of tumor emboli.
- The patient may resume useful work earlier than after the radical procedure.
- Postoperative radiation therapy does not delay removal of a potential solitary focus in the breast.
- The five-year survival rate is as good as that generally reported with radical surgery.

Disadvantages include [1] failure to control radioresistant but locally removable extramammary cancer; [2] probable failure to secure adequate radiation dosage in obese patients; [3] hazards to the lung apex in patients with active upper lobe tuberculosis; [4] possible tissue injury if the procedure is not done meticulously; and [5] prolongation of therapy two to three weeks after surgery.

*The rationale and results of simple mastectomy plus radiotherapy in primary cancer of the breast. Am. J. Roentgenol. 71:923-941, 1954.

Etiology and Treatment of Ascites

JOHN L. MADDEN, M.D., JOHN M. LORÉ, JR., M.D.,
FRANK P. GEROLD, M.D., AND JACOB M. RAVID, M.D.
St. Clare's Hospital, New York City

*The primary factor in the etiology of ascites is blockage of the outflow tract of the liver.**

INTRAHEPATIC circulations were compared in normal and diseased livers to determine the cause of ascites. Whole specimens were obtained from cadavers and each circulatory system was injected with a different colored solution of neoprene latex.

The tributaries of the portal and hepatic veins and the branches of the hepatic artery are in constant equilibrium when the liver is not diseased. When cirrhosis produces irreversible ascites, the portal venous and hepatic arterial beds, the inflow tracts, are increased in size and the hepatic or systemic venous outflow tract is decreased. In lesser degrees of cirrhosis without ascites or with reversible ascites, all vascular systems are diminished.

Livers of patients with congestive hepatomegaly consequent upon heart failure are greatly increased in the diameter, and the size of the hepatic venous outflow vessels is large. The arterial vascular bed is increased with metastatic cancer.

The studies indicate that ascites is produced by obstruction of the portal venous outflow tract rather than blockage of the inflow tract. The theory is supported by the observation that ascites results from ligation of the thoracic segment of the inferior vena cava but not from occlusion of the portal vein at the porta hepatis.

The hepatic venous bed is the outflow tract for both the hepatic artery and the portal vein. When the tract is obstructed, beds of the hepatic artery and portal vein increase in an attempt to compensate.

The cause of the obstruction with irreversible ascites seems to be obliterative fibrosis of the hepatic veins. The liver is small and contracted.

Treatment should be aimed at increasing the vascular bed of the outflow tract. An artificial bridge may be formed between the portal and systemic veins. Magnesium trisilicate powder is applied to abraded areas over the superior surface of the liver and the inferior surface of the diaphragm.

Production of a portacaval shunt, ligation of the hepatic artery, or formation of a fistula between the hepatic artery and portal vein is not adequate. Extensive surgery is inadvisable since the patient is in a terminal stage.

*The pathogenesis of ascites and a consideration of its treatment. Surg., Gynec. & Obst. 99:385-391, 1954.

With reversible ascites, the block is probably caused by intrahepatic cellular edema because of electrolyte and protein imbalances. The liver is acutely enlarged; prognosis is good. With dietary correction and medication, edema subsides, obstruction is released, and ascites disappears.

Ascites associated with congestive heart failure is due to obstruction of the hepatic outflow tract caused by intrahepatic cellular edema due to stasis in the thoracic part of the inferior vena cava. The hepatic veins may also be blocked by metastatic cancer of the liver. Tumor or edema owing to alterations in electrolytes and protein metabolism may be responsible.

¶ TOXEMIA OF PREGNANCY occurs more frequently in patients who have had premenstrual syndromes. The symptomatic similarity of the two disorders suggests a basic relationship. In treating 10 patients with moderate toxemia and 1 with severe symptoms, Katharina Dalton, M.R.C.S., of Edmonton, Middlesex, England, found that intramuscular injection of 25 to 125 mg. of progesterone on alternate days effectively controlled nausea and other symptoms. The hormone also alleviates the premenstrual syndrome.

Brit. M. J. 4896:1071-1076, 1954.

¶ TRICHOMONAS VAGINITIS may be effectively treated with caprylic acid. The vagina is cleansed with a 20% solution of sodium caprylate (Caprylium) in 3 parts of water and coated with the powdered form of the medicament; 5 gm. of the cream preparation is then deposited in the posterior fornix. Douches with a dilution of the trichomonacide are used nightly, after which the cream is applied. Of 104 patients treated with this method, report Walter J. Reich, M.D., and associates of Cook County and Grant hospitals, Chicago, 92 were cured.

GP 10:58-59, 1954.

¶ VULVECTOMY IN OLDER WOMEN is facilitated by high-frequency electrosurgery with coagulating and cutting currents. The procedure, with use of the Bovie Electrosurgical unit, can be accomplished in about half an hour. A. Herbert Marbach, M.D., and Louis Schinfeld, M.D., of the Albert Einstein Medical Center and the University of Pennsylvania, Philadelphia, find that diseased tissue is accurately destroyed without damaging healthy cells and, when compared to other methods, less anesthesia is required, morbidity is lower, and shock and blood loss are diminished.

Obst. & Gynec. 4:536-541, 1954.

Vaginal Hysterectomy

VIRGIL S. COUNSELLER, M.D., AND WILLIAM HUNT, M.D.
Mayo Clinic, Rochester, Minn.

*Some gynecologic lesions can be corrected safely and advantageously by removing the uterus by the vaginal route.**

INCOMPETENT vaginal support is the chief reason for vaginal hysterectomy. Other indications include primary or recurring urinary incontinence and some types of dysmenorrhea. Abnormal bleeding with or without fibroids, which was formerly treated by intrauterine radiation, is also satisfactorily managed by vaginal hysterectomy; normal adnexa of premenopausal patients are preserved.

Occasionally, vaginal hysterectomy is done for cancer of the endometrium. The selected patients are obese, hypertensive, and multiparous with incompetent support and previous slight vascular accidents. Lymph node dissection and cystocele or rectocele repair are not done.

If smears and biopsy confirm carcinoma of the cervix in situ or state O, the vaginal approach is used. Immediate examination of a complete conization, including all of the endocervical glands, should reveal no invasion before surgery is continued. If subsequent serial sections show invasion, lymph node dissection is done.

Vaginal hysterectomy is usually not indicated for clinically demonstrable endometriosis.

Facility of vaginal hysterectomy is unrelated to parity. The operation is just as easy in the nulliparous as in the multiparous woman and frequently safer. In the former, pelvic structures are usually undistorted and unscarred by previous pregnancies or operations. When the perineum is extensively scarred, careful measurements must be made preoperatively to insure an adequate vagina after reconstruction.

Extent of required surgery varies. In some instances, only uterine removal is necessary. If a scarred, rigid perineum obstructs the approach, a generous episiotomy facilitates exposure. Morcellation of fibroids or uterine hemisection is occasionally necessary.

Small intestinal openings may result after separation of dense adhesions to the uterine fundus. Immediate transverse closure should be done. Vaginal resection of small intestine is possible if the mesentery is sufficiently mobile. However, laparotomy should be performed if required.

Bladder injury is rare; water or colored solution may be kept in the bladder so that traumatic leaks can be noted at once. Ovarian cysts

*Indications, advantages, and surgical technique of vaginal hysterectomy. Surg., Gynec. & Obst. 99:761-767, 1954.

usually can be resected and sufficient normal tissue preserved. In the menopausal patient, such adnexa should be removed and oophorectomy considered, because of the possibility of subsequent ovarian carcinoma.

Plastic operations on the vesical neck and urethra are frequently required to correct associated urinary incontinence. The normal urethrovesical angle must be restored.

Transfusion during vaginal hysterectomy is frequently required because of anemia or bleeding from large varices in the broad ligaments and vaginal wall.

Postoperative complications are directly related to the extent of vaginal repair. Vesical neck reconstruction often causes retention, and a Foley catheter should be kept in place for ten days or longer, as necessary. After removal of the catheter, the patient is catheterized twice a day until residual urine is 30 cc. or less.

Infection is not a serious complication and is usually found in hematomas between the vaginal wall and the peritoneum. Bleeding is unpredictable and will often occur when catgut sutures are releasing. Resuturing is rarely necessary, and a gauze pack for two days is usually sufficient treatment. The uterine pedicle should be doubly ligated at surgery.

Hospitalization is short for patients who have vaginal hysterectomy alone; those who have more extensive procedures for stress incontinence or vaginal repairs usually must remain longer than eleven days.

Sclerosing Agent with Tubal Ligation

W. J. DIECKMANN, M.D., AND J. P. HARROD, JR., M.D., UNIVERSITY OF CHICAGO AND CHICAGO LYING-IN HOSPITAL, report that inclusion of a sclerosing agent in the Madlener method of tubal ligation sharply reduces failures.

Before ligation is done, 1 cc. of 5% sodium morrhuate with 2% benzyl alcohol is injected into the fimbriated end of each fallopian tube through a eustachian cannula. The ligation method of Madlener should not be modified. The tube is crushed at the outer third with a Payr clamp; crushing is more effective if the end of the clamp is used instead of the broad base. A Kocher or hemorrhoidal clamp is inadequate.

Of 435 women treated by Madlener ligation alone, 4.1% subsequently became pregnant. Sodium morrhuate was used with ligation for over 200 patients; no pregnancies have occurred during periods of at least two years. Obliteration of the lumen can be demonstrated several months later by hysterosalpingographic study with Lipiodol.

Tubal ligation (sterilization) by a modified Madlener method. Am. J. Obst. & Gynec. 68:897-902, 1954.

Functional Uterine Bleeding

J. G. MOORE, M.D., B. P. SINGH, M.D., AND
R. S. HOLZMAN, M.D.
University of California, Los Angeles

*Curettage is the initial measure in management of functional uterine bleeding.**

ENDOMETRIAL hyperplasia and irregular shedding of the endometrium are the most common known causes of uterine bleeding not due to neoplastic, inflammatory, or trophoblastic pelvic changes. However, the etiology frequently cannot be determined.

Retention of hyalinized fragments, with endometrium, may be a frequent cause of menometrorrhagia. The fragments were found in specimens from almost 70% of 162 women with unexplained hemorrhage. This type of tissue was noted in only 3.5% of curetted specimens from women without functional uterine bleeding.

The hyalinized tissue will usually contain or be surrounded by degenerating endometrial glands and be infiltrated by fibroblasts. Inflammation is generally not noted. The tissue may be seen in proliferative, secretory, or menstruating endometrium.

The degenerated glands are probably retained from a previous menstrual cycle. The accumulation may become surrounded with blood and serve as a focus for further bleeding.

Since functional bleeding generally occurs during the menarche or climacteric and is, therefore, self-limited, therapy should usually be conservative. Curettage is curative in approximately half of instances. The procedure also reveals possible malignant disease, establishes the diagnosis, and stops bleeding at least temporarily. Any systemic disease or dietary deficiency should also be treated.

Steroid hormones are administered in cycles to suppress and release gonadotropic activity if curettage is not effective. After stilbestrol is given by mouth for twenty-one days, no hormones are prescribed for seven days. The dose of from 0.5 to 3 mg. each day may be increased from the first to the third week. Stilbestrol is as effective as estrone sulfate or estradiol.

In order to luteinize the endometrium and produce more physiologic withdrawal bleeding, 25 mg. of progesterone may be given orally each day during the third week of the cycle or 1 cc. of progesterone (50 mg. in aqueous suspension) may be administered intramuscularly on the twenty-first day.

Androgen therapy is useful for controlling only the initial phase of bleeding. Hysterectomy should be performed only for women under

*Functional uterine bleeding. California Med. 81:316-320, 1954.

45 years of age when conservative measures have been unsuccessful. The procedure is seldom necessary for patients under 35 years and is inadvisable because the ovarian blood supply is interrupted.

Radiation castration is recommended if conservative therapy is ineffective for women over 45 years and for younger patients who cannot tolerate extensive surgery. Dosage is 1,500 r of pelvic radiation or 1,500 mg. hours of intrauterine radium.

Eosinophilia Caused by Animal Parasites

JOHN H. DENT, M.D., TULANE UNIVERSITY, NEW ORLEANS, reports that visceral larva migrans is a frequent cause of eosinophilia in children with or without symptoms. The disease results when larvae of *Toxocara canis* or another nematode normally parasitic to lower animals invades the human viscera.

Children become infected by swallowing embryonated eggs contained in dirt contaminated by dog feces. The larvae hatch, penetrate the intestinal mucosa, and migrate to liver, lungs, brain, heart, and kidneys. A granulomatous inflammatory reaction surrounds the larvae and tracts.

The disease is noted in children from 18 months to 6 years of age. Signs and symptoms include malaise, fever, pallor, anorexia, cough, muscle pain, and emotional instability. An impetiginous, pruritic skin rash may cover the trunk and lower extremities. Temperature may be as high as 105° and associated with nausea and vomiting.

Examination of the peripheral blood reveals a pronounced eosinophilic leukocytosis with a total leukocyte count from 15,000 to 80,000 cells per cubic millimeter. Eosinophilia may fluctuate between 20 to 80% in the same patient. Most of the eosinophils are mature. Bone marrow shows an eosinophilic hyperplasia.

Sometimes the child seems healthy, and pronounced eosinophilia, slight iron-deficiency anemia, and occasional episodes of bronchitis are the only manifestations.

Diagnosis can be definitely established only by liver biopsy. Fecal examination is not conclusive since the larvae do not complete a life cycle in man. Visceral larva migrans may exist with more common parasites such as whipworm or pinworm. Vitamins, iron, and short courses of antibiotics may be administered. Cortisone ameliorates symptoms and decreases the number of eosinophils.

If the source of contamination is removed, the prognosis is ordinarily good even if infection is massive. However, irreversible changes may result, especially in the central nervous system.

Eosinophilia in children. Ann. Allergy 12:579-584, 1954.

Head Injuries in Children

DONALD D. MATSON, M.D.
Harvard University, Boston

*After injuries to the head in childhood, repeated, regular examinations should be made until recovery is assured.**

DURING the acute phase of common closed head injuries in infancy and early childhood, the inconsequential bump often cannot be differentiated from critical brain trauma. Momentary stupor, then furious crying, transient apnea, pallor, vomiting, inability to focus, drowsiness, and irritability occur after widely varying degrees of injury. Vital and neurologic signs may change quite rapidly.

Neurologic examination is difficult and unreliable in early childhood. A few simple clinical signs are more important. Careful attention should be given to findings that change during repeated examinations.

State of consciousness can be determined by the ability of the child to obey commands. In children too young or stuporous to understand, the level may be estimated by degree of response to a painful stimulus, such as a pin prick.

Comparative size and activity of the pupils of the eyes should be carefully noted. When no medication has been given, bilateral pinpoint pupils (Fig. *a*) indicate probable brain stem contusion but not irreversible injury. Prognosis is ordinarily poor with bilateral dilated fixed pupils (Fig. *b*) accompanied by irregular breathing and decerebrate rigidity. Asymmetric pupils (Fig. *c*), especially when seen during observation after injury, always indicate lateral brain injury and usually mean localized intracranial hemorrhage on the side of the dilated pupil.

Deep tendon reflexes can be tested in almost any child. Comparison of the two sides from one examination to the next is of importance. Hyperactivity of all reflexes accompanies subarachnoid bleeding and diffuse cerebral contusion. Areflexia usually means severe brain stem damage, and prognosis is grave. Unilateral hyperactivity of deep tendon reflexes, ankle clonus, and

a *b* *c*

*Treatment of head injuries in childhood. Postgrad. Med. 16:219-222, 1954.

extensor response of the great toe are signs of local brain injury and, often, intracranial hemorrhage.

After simple cerebral concussion or contusion, the greatest neurologic deficit usually occurs at once. If additional neurologic abnormalities appear, such as increased stupor, pupillary irregularity, motor paralysis, or deep tendon reflex changes, neurologic damage probably is progressing.

When a child with a slight head injury remains at home, the parents should awaken him two or three times during the first night to be sure that sleep is natural. The physician should be called if headache or vomiting increases in severity or reappears after an interval or if the child becomes unresponsive or has pupillary irregularity or extremity weakness.

The most important feature in the care of an unconscious injured child is to make certain that the airway is adequate. The child should be placed on the side or face to avoid aspiration of vomitus or secretions. Tracheal aspiration, airway insertion, or tracheotomy may be necessary.

Treatment of shock is vital. If pallor and a weak, rapid pulse persist, blood pressure falls, and lethargy increases, whole blood should be transfused without delay.

Young children with intracranial hemorrhage after head injury do not have the typical adult symptoms of rising blood pressure, widening pulse, and deep and slow respirations. In an infant, shock is seen more frequently, the pulse becomes rapid and weak, blood pressure falls, and the skin becomes paler and cooler. If these vital signs become more abnormal after the initial period of shock and fright, intracranial bleeding should be assumed until proved otherwise.

Although roentgenograms aid in diagnosis of skull fracture, the films seldom contribute essential information during the acute phase of injury and should be delayed until the child's condition is stabilized.

Active dehydration is not necessary, and normal urine output should be maintained. Restlessness, irritability, and headache are best managed with aspirin. Barbiturates should be generally avoided.

Depressed fractures of the skull occur in the newborn period as a result of undue pressure by the fetal head against the maternal pelvis during labor and should be elevated as early as possible to prevent local cortical compression.

Simple linear skull fractures, without wide separation or depression, usually may be treated in a manner similar to closed head injuries. However, depressed and compound fractures require the specialized attention of a neurosurgeon. Early treatment consists of shaving the margins of open wounds, applying sterile dressings, and administering antibiotics and supportive therapy.

Extradural hemorrhage occurs infrequently in infants and young children but should be considered with rapid loss of consciousness, unilateral pupillary dilatation, hemiplegia, and increased intracranial pressure seen during the first twelve to twenty-four hours after injury.

Exploratory burr holes in the posterior and midtemporal regions are often necessary for diagnosis.

Cephalhematomas usually are resorbed spontaneously. Subdural hematoma is a fairly common delayed sequel to head injury in the first two years of life and should be suspected if an infant eats poorly, vomits, is unusually irritable or drowsy, or has had a convulsive seizure. Diagnosis is made by subdural puncture through the coronal suture. Fluid is aspirated until active bleeding stops, and the frontoparietal subdural space is explored. A craniotomy should be done to remove subdural membrane.

¶ HONEY-SUPPLEMENTED INFANT FORMULAS compare favorably with Dextri-Maltose diets and are superior to corn syrup formulas in respect to average weekly weight gains, linear growth measures, and hemoglobin values. Alfred J. Vignec, M.D., and Juan F. Julia, M.D., of the New York Foundling Hospital, New York City, report that nonspecific gastroenteritis occurs almost twice as often in infants fed Karo syrup as in those receiving the other formulas.

Am. J. Dis. Child. 88:443-451, 1954.

¶ PERIORBITAL EDEMA may be the first sign of infectious mononucleosis. Although peripheral lymph nodes may not be palpable, Murray H. Bass, M.D., of New York City suggests lymphatic obstruction as the probable cause of swelling. Edema of the eyelids, a flushed face, and a rectal temperature of 104.8° F. were the only symptoms observed initially in a 12-year-old girl. Within twenty-four hours, the blood smear was typical for the disease and cervical nodes were enlarged. On the third day, the spleen became palpable and a nondiphtheritic exudate appeared on the tonsils.

J. Pediat. 45:204-205, 1954.

¶ ASEPTIC MENINGITIS may result from infection with Coxsackie virus group B, type 2 (Ohio). The organisms were isolated from stools, throat swab, or spinal fluid in 6 patients, and Klaus Hummeler, M.D., Daniel Kirk, M.D., and Mykola Ostapiak, M.D., of the University of Pennsylvania, Philadelphia, and Elwyn Training School, Elwyn, Pa., observed spinal fluid changes suggestive of the disease in all of 11 persons with signs of meningeal involvement and muscular pain. Two strains of the microorganism recovered from feces failed to cause illness in suckling mice on first passage.

J.A.M.A. 156:676-679, 1954.

Reconstruction of External Ear

M. BÄCKDAHL, M.D., V. CONSIGLIO, M.D.,
AND B. FALCONER, M.D.
Serafimerlasarettet, Stockholm

*Maternal cartilage used for reconstruction of an ear generally remains unchanged and palpable; any impairment of the implantation is almost always evident within two years.**

SELECTION of material for support is a decisive factor in reconstruction of an external ear. Cartilage from the ear of the patient's mother is the most satisfactory. Donors do not have major discomfort after removal of the cartilage. Shrinkage of the ear is moderate, and the defect is easily covered by the hair.

A small piece of cartilage with surrounding perichondrium is taken from the donor, leaving a margin 1 to 2 mm. wide for support. The cartilage is implanted subcutaneously at the site of reconstruction. In about seven to ten days, a tubed pedicle from the acromiopectoral region is formed and sutured in position to use as a flap later. The patient is discharged for about three months.

After complete healing, the area representing the future ear containing skin and the donor cartilage is circumscribed, undermined, and swung out from the skull. The pectoral end of the pedicle graft, which is undermined in a flat, spade-like area a week previously, is used to cover the exposed space behind the ear and on the skull. Slight corrections in the shape of the ear can be made later.

The operation is usually done for children with congenital defects of the external ear, but results are also good with adults.

Biopsy may show moderately severe degenerative changes in the implanted maternal cartilage, but the result is not impaired if necrosis and absorption do not take place.

Total absorption of the maternal cartilage may occur spontaneously or from infection at implantation. If atrophy of the cartilage occurs, shrinkage or drooping of the reconstructed ear is usually noted within two years. The age of the donor and the Rh classification do not seem to influence the outcome of the cartilage.

Secondary insertion of another material for additional support is not satisfactory. Celluloid film produces foreign-body reactions, frequently with abscess formation. Absorption, sometimes with inflammatory reactions, occurs when ox cartilage is inserted. Perforation from stress results when stainless steel wire is used.

*Reconstruction of the external ear with the use of maternal cartilage. Brit. J. Plast. Surg. 7:263-273, 1954.

Treatment of Jaw Fractures

RAYMOND N. SHAPIRO, M.D., GERALD R. O'BRIEN, M.D., AND CHARLES WILKIE, D.D.S.
Kings County Hospital, Brooklyn

*Restoration of form and function is the objective of treatment for jaw fractures.**

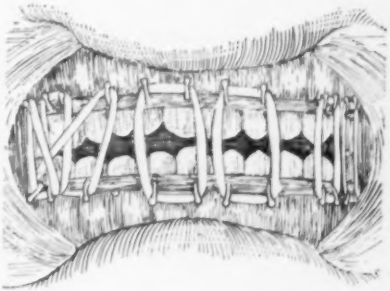
THE primary functions to be reinstated after fractures of the jaw are mastication, deglutition, speech, and normal respiration. Even slight misalignment of dental occlusion grossly impairs dental function; therefore, proper utilization of the inclined planes and cusps of the teeth is essential to accurate reduction and secure immobilization of bony fragments.

FRACTURES OF THE MANDIBLE

When a fracture involves the tooth-bearing portion of the mandible and occluding dentition is adequate, reduction and immobilization can be accomplished by *intermaxillary fixation,* utilizing contour arch bars and elastic traction (see illustration).

This method is also adequate if only one condylar neck is fractured. For bilateral condylar fractures, open reduction and interosseous fixation on one side are necessary to overcome loss of ramus height and an open bite anteriorly.

Internal fixation, after open reduction, is used for fractures behind the last mandibular tooth,



when the number of teeth is insufficient for intermaxillary fixation. The procedure is also advisable for symphysis fractures which tend to displace, and in children when deciduous teeth are unsuited to intraoral wiring.

Incisions are made behind or below the mandible, and the periosteum is reflected just enough to drill 2 holes on either side of the fracture and below the mandibular canal with a fine Kirschner wire. Care is taken to preserve the inframandibular branch of the facial nerve.

Heavy gauge stainless steel wire is passed through the holes, carried parallel across the fracture on the lingual side, and crossed on the buccal side. The wire ends are twisted together tightly after manual reduction. The wound is closed in layers, without drainage.

*Treatment of jaw fractures. Arch. Otolaryng. 60:548-556, 1954.

Circumferential wiring can be used for reduction and fixation when the mandible is edentulous but an intact lower denture is available. Steel wires, on a large curved needle, are passed around the lower mandibular border close to the lingual arch and buccal borders. The wires are twisted tightly over the denture seated on the alveolar ridge. The denture acts as a splint and stabilizes bony fragments.

Immobilization by all 3 methods is continued for six weeks, during which time a liquid diet is maintained. Penicillin is given daily for compound fractures, and all patients receive dental care several times a week.

Inlay-onlay grafts from the ilium are employed when nonunion results from persistent infection or extensive loss of substance.

FRACTURES OF THE MAXILLA

Segmental maxillary fractures are reduced and immobilized by *intermaxillary fixation* if adequate occluding teeth are available.

For complete, transverse maxillary fractures, *orbital rim suspension* is used in conjunction with intermaxillary fixation. Upper and lower arch bars are wired in place, and intermaxillary occlusion is established. Steel wires are passed through small drill holes in each orbital margin and carried just below the skin down through the mucobuccal fold. The wires are attached to the maxillary arch bar. All incisions are made in natural crease lines.

Dentures may be used instead of arch bars if the patient is edentulous. Circumferential wiring of the lower denture is employed at the same time, if the mandible is fractured, by attaching a mandibular splint to the maxillary splint.

After fracture healing, the suspension wires can be easily released from attachments to the arch bars and withdrawn by simple traction.

Fractures involving the orbital floor, lateral orbital margin, and malar bone are reduced and immobilized by *open reduction* and *interosseous wiring*, sometimes combined with the orbital suspension procedure.

Comminuted antral wall and orbital floor fractures associated with depressed malar fractures are exposed through the canine fossa. After blood clot and comminuted free bone fragments are removed from the maxillary sinus, reduction is accomplished by pressure with elevators and curved urethral sounds. Aureomycin or iodoform gauze packing, inserted through a nasoantral window, holds the reduced position. The canine fossa incision is closed by suturing. The packing is removed through the nose in ten to fourteen days.

FRACTURES OF MALAR BONE

Malar and zygomatic arch fractures often coexist with fractures of the maxilla. Open reduction is required for malar fractures. Arch fractures alone are easily reduced through a temporal scalp incision. An elevator is passed beneath the temporal fascia and arch to raise the arch into position. Immobilization is usually not necessary.

SPECIAL EXHIBIT

THE TREATMENT OF PINWORM INFECTION IN CHILDREN

THOMAS S. BUMBALO, M.D.,
AND FRANCIS J. GUSTINA, M.D.
University of Buffalo, N.Y.

Pinworms are the most common and widely distributed of human helminth parasites. There are 209,000,000 cases of pinworm infection in the world—18,000,000 cases in the United States and Canada alone.

A Modern Medicine Exhibit adapted from a presentation made at the convention of the American Medical Association in San Francisco.

Ova of *Enterobius vermicularis*

Male *E. vermicularis*

Female *E. vermicularis*

Life Cycle

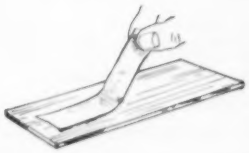
The microscopic egg, 55 by 26 microns in size, is swallowed by the human host. Intestinal juices stimulate hatching and the young oxyurids grow rapidly to sexual maturity. After the mating, which takes place in the lower small intestine and cecum, the male dies and disintegrates. The fertilized female reaches the colon and emerges from the anus after the host has gone to bed. In the cooler temperature outside the anus the female contracts violently, bursts, and oviposits 10,000 to 15,000 fertilized eggs in the perianal folds. Scratching fingers transfer the eggs to the mouth and the life cycle starts again. Complete life cycle ranges from fourteen days to two months.

Diagnosis . . . *is a simple office procedure*

1 *Loop transparent cellophane tape around end of tongue depressor, gummed side out.*

2 *Contact perianal region with gummed surface.*

3 *Transfer tape to slide, gummed side down, and specimen is ready for microscopic examination.*



Symptoms

may be completely absent

Pruritus ani, especially at night

Pruritus vulvae, vaginal discharge

Disturbed sleep

Congestion of anal region

Excoriation of perianal area

Secondary bacterial infection of perianal area

Disturbed behavior attitudes:
restlessness, inattention and lack of cooperation in school, feeling of shame and inferiority because of ridicule when scratching

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Instructions to Patients

1. Apply carbolated Vaseline liberally to the anus and sex organs after each toilet. Wash off in morning with soap and water.
2. Wear snug cotton drawers or panties under pajamas or sleeping gowns.
3. Wash child's hands before each meal. Clean his nails daily and cut them short.
4. Have child sleep alone.
5. Fold all sleeping clothes and soiled bed linen without shaking each morning and soak in ammonia water (2 cups household ammonia to 10 gallons water) for one hour or boil before laundering.
6. Sterilize toys in a hot oven for fifteen minutes when possible.
7. Vacuum rugs and upholstered furniture daily.
8. Raise bedroom temperature as high as possible for one hour daily and air well.
9. Give the child a shower or stand-up bath daily, preferably in the morning.
10. Have all members of household treated for pinworms at the same time.
11. Report immediately if child has nausea, vomiting, abdominal pain, or diarrhea.

Treatment

Drug	Dosage	Duration	Comments	Cures (%)
ANTEPAR (piperazine syrup)	1-5 yrs. ½ tsp. t.i.d. 5-10 yrs. 1 tsp. t.i.d. 10 and up 1½ tsp. t.i.d.	7 days 7 days rest 7 more days	*liquid, each cc. contains 100 mg. piperazine hexahydrate*	85
TERRAMYCIN	10 mg. per lb. body weight divided into 3 daily doses	7 days	*oral drops, oral suspension, capsules*	85
GENTIAN VIOLET	1 mg. per lb. body weight divided into 3 daily doses, a.c.	8 days 8 days rest 8 more days	*enteric-coated tablet, 3/20 and ½ gr.*	84
CREMOTHALIDINE	1-4 yrs. 0.8 gm.,t.i.d. 4-6 yrs. 1.2 gm.,t.i.d. 7-9 yrs. 1.6 gm.,t.i.d. 10-13 yrs. 2.0 gm.,t.i.d. adults 2.4 gm.,t.i.d.	2 weeks continuously	*liquid, 0.8 gm. per tsp.*	65
MAGNAMYCIN	25 mg. per kg. divided into 4 daily doses	5 days	*tablets, 100 mg. each*	58
EGRESSIN	0.87 gm. per lb. body weight divided into 3 daily doses, p.c.	5 days	*0.25- and 0.5-gm. tablets (experimental drug, not available)*	54
	Other drugs tested and per cent of cures: diphenan, 30%; papain, 10%; garlic, 17%			

For seven days after cessation of treatment, all patients are checked by daily Scotch tape swab smears. Only those patients with 7 consecutive negative smears are declared cured.

Etiology of Dupuytren's Contracture

STUART GORDON, M.D.
Toronto

*Age is the only factor known to be significant to shortening of the palmar fascia.**

MANY unrelated factors and diseases have been implicated in the etiology of Dupuytren's contracture. A review of 369 patients reveals that most of the suggested causative agents are insignificant.

Age bears a close causal relationship. Dupuytren's contracture occurs most frequently between the ages of 55 and 75 years. A statistically significant increase is noted with each successive age group.

Tuberculosis may affect development of the lesion. Of 609 patients with pulmonary tuberculosis, 109 had Dupuytren's contracture. In all age groups, a greater incidence of the illness is associated with tuberculosis.

Though the disease is considered to be more common among men, analysis reveals no difference in the incidence in the sexes. However, most of the female patients are in the younger age range, in contradistinction to the males.

Occupation does not appear to be important. The deformity occurs in active persons and in people retired for years.

Of 187 patients with arthritis, 29 had Dupuytren's contracture. The occurrence with arthritis is not significantly different than the overall incidence. The same is true of diabetes mellitus.

The reportedly high rate of palmar contracture with epilepsy has been linked with the prolonged use

Dupuytren's contracture; affected palmar fascia shown in color.

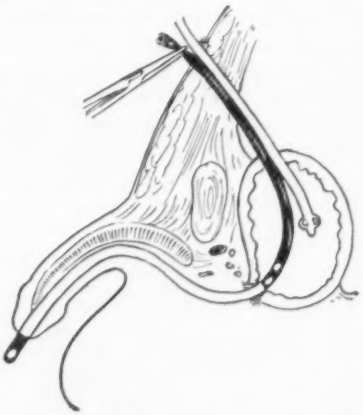
*Dupuytren's contracture: the significance of various factors in its etiology. Ann. Surg. 140:683-686, 1954.

of phenobarbital. Of 694 epileptics, only 55 had Dupuytren's contracture. Most of these patients had been receiving phenobarbital for years. Investigation of the figures shows a significantly lower rate of the disease among patients with epilepsy than in persons without convulsive disease.

The contracture is sometimes attributed to a reflex mechanism resulting from visceral disease. According to one postulation, myocardial infarction may produce a reflex neurovascular dystrophy in the shoulder and arm. Electrocardiograms showed that 3 of 35 patients with Dupuytren's contracture and 7 of 35 persons without the deformity had myocardial disease. Of 29 patients with coronary thrombosis, 4 had the contracture.

Reconstruction of the Posterior Urethra

HENRY M. WEYRAUCH, M.D., AND RANULF P. BEAMES, M.D., STANFORD UNIVERSITY, SAN FRANCISCO, describe a pull-through procedure to replace a traumatized posterior urethra. When the entire urethra, rather than an anterior or posterior flap, is used, the defect is bridged by a completely epithelized channel and is well vascularized. Slough or stricture formation is unlikely.



The bulbous urethra is freed until the defect can be bridged without tension. The vesical neck is prepared for anastomosis by trimming granulations. The internal sphincter must not be damaged. The bulbous urethra is sutured to a No. 24 Robinson catheter with No. 00 chromic catgut. The catheter is introduced via the penile urethra through the vesical neck and brought out through a cystotomy to the abdomen. The catheter serves as a splint; the bulbous urethra is anastomosed to the vesical neck by 4 interrupted No. 00 chromic catgut sutures. Another catheter is left in place as a cystotomy tube (see illustration). Perineal subcutaneous tissues are brought together over the bulbous urethra. A Penrose drain is left in place when the skin is closed.

A 16-year-old male with gunshot wound of the perineum had good urinary control five months postoperatively.

Reconstruction of posterior portion of urethra. Surg., Gynec. & Obst. 99:635-637, 1954.

Treatment of Urinary Tract Infections

WALLACE E. HERRELL, M.D.
Lexington Clinic, Lexington, Ky.

*Intensive antibiotic therapy is necessary to eradicate infections of the blood stream and heart originating in the urinary tract and for urinary tract disease resulting from systemic bacterial infections.**

SENSITIVITY of the causative organism to antibiotic agents should be determined when bacteremia or endocarditis accompanies urinary tract infections. Treatment must be continued long enough to sterilize the blood stream and eliminate the foci.

BACTEREMIA

Infections caused by *Escherichia coli,* paracolon bacilli, or *Proteus vulgaris* are treated by intramuscular injection of 1 gm. of dihydrostreptomycin twice daily and 750 mg. of oral oxytetracycline or chlortetracycline every six hours. If the patient cannot take the oral preparation, 500 mg. of the cycline drug is administered intravenously every twelve hours in 250 cc. of solution. Infusion time is fifteen to twenty minutes.

Blood cultures are made every forty-eight hours. Treatment is continued until 2 or 3 cultures are sterile and the patient is afebrile for at least forty-eight hours.

When *Pseudomonas aeruginosa* is the infecting agent, intramuscular injection of 25 mg. of polymyxin B (Aerosporin) twice daily and 3 gm. daily of oral oxytetracycline or tetracycline are recommended.

Intramuscular or intravenous administration of 1,000,000 units of penicillin is the best therapy for streptococcic bacteremia. If the patient is allergic to the drug, another antibiotic must be substituted.

For staphylococcic bacteremia, 1,000,000 to 2,000,000 units of intramuscular procaine penicillin or intravenous aqueous penicillin may be administered daily. However, the organism is frequently resistant to penicillin, and a cycline agent must be substituted. Dosage of chlortetracycline or oxytetracycline is 750 mg. by mouth every six hours or 500 mg. by vein every twelve hours.

If the organism is resistant to both penicillin and the cyclines, Erythromycin should be used in doses of 300 mg. orally every six hours or 200 mg. intravenously every eight hours. Erythromycin may at times be combined with penicillin, but neither Erythromycin nor penicillin should be combined with the cyclines.

BACTERIAL ENDOCARDITIS

Therapy must be more prolonged and intensive for endocarditis re-

*The treatment of nonspecific infections of the urinary tract. J. Urol. 72:1238-1246, 1954.

sulting from primary infection of the urinary tract than for bacteremia. Prophylactic antibiotics should always be administered to a patient with valvular heart disease before a urosurgical procedure.

Staphylococcic endocarditis, produced by *Micrococcus pyogenes* in the urinary tract, is treated with 10,000,000 units of aqueous penicillin daily by the intravenous route. If the organism is resistant to penicillin, a cycline antibiotic is given in amounts of 3 gm. orally or 1 gm. by vein daily.

When the organism is sensitive only to Erythromycin, the initial dose is 400 mg. by mouth; subsequently, 300 mg. is prescribed every six hours. The intravenous dose is 200 mg. every six or eight hours.

Simultaneous administration of 1,000,000 to 2,000,000 units of penicillin and 2 gm. of dihydrostreptomycin each day for two weeks eradicates subacute bacterial endocarditis due to *Streptococcus salivarius* or *Str. mitis.*

Str. faecalis is generally the causative organism when subacute bacterial endocarditis occurs after urinary surgery. The patient should receive 5,000,000 to 10,000,000 units of penicillin intramuscularly or, preferably, by continuous intravenous drip daily and 1 gm. of dihydrostreptomycin by the intramuscular route twice daily. After two weeks, the streptomycin dose is reduced to 0.5 gm. twice daily.

The daily dose of penicillin is usually given in 2 liters of solvent. To prevent venous thrombosis, 25 mg. of heparin sodium may be added to each liter of solution.

Treatment is continued for four to six weeks. After the combined therapy is discontinued, small doses of penicillin are given for weeks or months as an added precaution. Blocking agents to enhance the blood levels of penicillin are not essential, but 0.5 gm. of Benemid by mouth can be prescribed four times daily. Excretion of streptomycin is not inhibited by the blocking action.

LOCALIZED INFECTION

After a primary systemic infection subsides, disease may remain in the urinary tract. Tuberculosis and brucellosis are the most important.

In management of renal and genitourinary *tuberculosis,* 1 gm. of intramuscular streptomycin is given daily for the first few days of treatment. After the initial period, the patient receives 1 gm. of dihydrostreptomycin three days per week with 150 to 200 mg. of isoniazid daily by mouth. When para-aminosalicylic acid is added to the treatment, the dose is 3 to 4 gm. three or four times a day by mouth. Therapy should be continued for twelve to eighteen months.

Pyrazinamide and isoniazid combined may be tried when tuberculosis is refractory.

Brucellosis of the urinary tract is treated with 750 mg. of chlortetracycline or oxytetracycline orally every six hours and 1 gm. of dihydrostreptomycin sulfate twice daily. Therapy is continued for four to six weeks. Streptomycin dose may be reduced by half after two weeks to avoid neurotoxicity.

Primary Prosthesis for Femur Fracture

CHARLES H. BRADFORD, M.D., JOHN J. KELLEHER, M.D., PAUL I. O'BRIEN, M.D., AND RICHARD M. KILFOYLE, M.D.
Boston City Hospital, Boston

*Insertion of a stem prosthesis without preliminary nailing is recommended for some elderly patients with subcapital fractures of the neck of the femur.**

WHEN prognosis for successful hip nailing in an aged person is poor, primary prosthesis is often advisable. Nailing procedures call for prolonged immobilization. Also, failure necessitates secondary replacement therapy. Elderly patients cannot afford the double jeopardy of prolonged disability and further surgery.

Primary use of a prosthetic appliance that supplies both an artificial head and an artificial neck offers many advantages. Light weight-bearing with crutches can be permitted early. Elaborate physiotherapy is obviated, and the patient may convalesce at home. Late complications from nonunion or necrosis of the head are eliminated. Cost of therapy is reduced.

Selection of patients is important. The procedure is useless for patients with no prospect of walking because of general debility, for moribund persons, or poor surgical risks. However, if hip nailing can be done safely, the patient may be allowed to have a prosthesis.

Selection is also concerned with the site of fracture. Since prognoses are poorer for high fractures than for breaks at the middle or base of the neck, lesions at or near the subcapital level are most suitable for primary prosthesis. Beak and comminuted fractures are also appropriate if satisfactory reduction is not possible.

A patient in the 60's or early 70's, if still active and healthy, is less likely than aged persons to suffer from prolonged bed rest and should be given every chance for a normal hip. Primary prosthesis is recommended for older, feebler patients.

The surgeon should be especially trained in the procedure. The stem prosthesis, which supplies an artificial neck as well as an artificial head, is recommended. The instrument of Austin Moore is generally preferred (Fig. 1). The posterior approach advocated by Austin Moore

Fig. 1. Moore prosthesis

*Primary prosthesis for subcapital fractures of the neck of the femur. New England J. Med. 251:804-807, 1954.

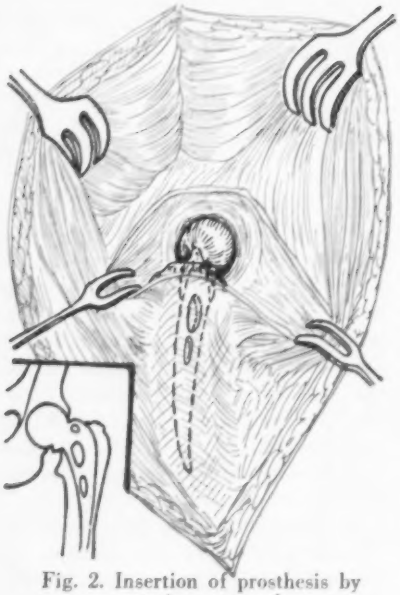


Fig. 2. Insertion of prosthesis by anterior approach

is most favorable (Fig. 2). The approach imposes the least possible shock to the tissues and involves no increased risk of hemorrhage, and operating time may be cut to forty minutes.

Postoperative care is simple. With an anterior approach, dislocation must be prevented by maintaining internal rotation and abduction. With the posterior approach, the precaution is unnecessary. The patient should stay in bed a few days to allow the wound to heal. Ambulation should be early. Pain is usually completely absent in the postoperative and convalescent periods.

With the Judet prosthesis, pain when walking and instability of the hip may be signs of absorption of the femoral neck. The Judet prosthesis may become loose and be found in considerable varus, probably as a result of faulty insertion.

A pulmonary embolus may result from manipulation of the leg. Since the patients are elderly, cardiac disease may supervene. Wound infections must be avoided.

Recovery is compared with what would be normal for the same patient, had the hip not been fractured. Of 51 patients, about one-fourth completely recovered. Half had moderate impairment of hip function without significant limitation of activity. About one-tenth were therapeutic failures. The remainder had definite limitation but not enough to cause severe pain or prevent reasonably restricted activity.

¶ MASSIVE OSTEOLYSIS, which occurs most frequently in children and young adults, may cause complete disappearance of bones and eventual death. Because angiomatosis is sometimes seen in affected bones and soft tissues, L. W. Gorham, M.D., and associates of Union University, Albany, N.Y., suggest that the disorder may be an etiologic factor in imbalance of osteoblast-osteoclast activity. Diffuse inflammation of soft tissues around diseased bones may compress or irritate the peripheral nerves and thereby produce atrophy.

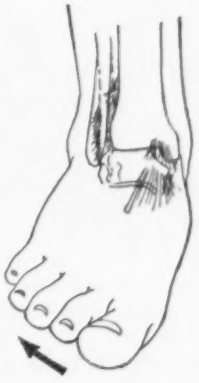
Am. J. Med. 17:674-682, 1954.

Traumatic Lateral Ankle Instability

BARNARD KLEIGER, M.D.
Hospital for Joint Diseases, New York City

*Prompt ankle immobilization in a plaster cast to midthigh, with the foot in internal rotation, obviates surgery and assures good healing of lateral ankle instability.**

WITH a serious tear of the anterior tibiofibular ligament and the anterior fibers of the medial collateral ligaments, lateral movement of the talus and distal end of the fibula from the tibia results (see illustration). Lateral ankle instability may occur after eversion or external rotation and is most commonly noted after oblique fracture of the distal fibula. However, the instability can occur without fracture. If tibiofibular diastasis also occurs, the fibula is displaced from the lateral tibial groove.



Physical examination may reveal tenderness over the tibiofibular and medial collateral ligaments. Diagnosis is occasionally confirmed when the talus is felt to move laterally as the foot is externally rotated.

Since instability is frequently not shown by the usual radiograms, films with the ankle in external rotation stress should also be made of every injury without noticeable displacement. Roentgenograms are made with the foot held at 90° in a special holder and the patient turned to the uninjured side. Local or general anesthesia is rarely necessary.

Early recognition of the lesion; complete reduction of the talus and, if necessary, replacement of the fibula in the tibial groove; and adequate and sufficiently lengthy immobilization are necessary for correct treatment. Delay of therapy results in a poor prognosis; ligament ends may become so scarred that continuity in healing does not occur or the ligament heals in continuity but is too long.

Manipulation in internal rotation, with use of general anesthesia, is necessary if the talus is completely dislocated from the mortise. For incomplete displacement, reduction can be done without anesthesia. A plaster boot is applied with the foot in neutral position. After the plaster hardens, the enclosed foot is put in 15 to 20° internal rotation and held by extending the cast to midthigh with the knee in slight flexion.

*The diagnosis and treatment of traumatic lateral ankle instability. New York J. Med. 54:2573-2577, 1954.

After four to eight weeks, a plaster boot with a rocker-type walking heel is applied for another two weeks. If stress films then reveal firm healing, immobilization is discontinued. Swivel, peg, or U type walking irons should not be used.

Ankle stability is usually restored, and functional results are excellent. However, scarring of the torn ligaments occasionally may produce slight restriction of motion or abnormal calcification. As yet, repair of both tibiofibular and medial collateral ligaments has not been possible to achieve by surgical procedures.

Management of Arthritic Knee Disabilities

JOHN G. KUHNS, M.D., BOSTON UNIVERSITY, states that the knee is involved more frequently than any other joint in chronic arthritis.

Inflammation produces the early manifestations, including pain with motion, muscular spasm, and swelling. Therapy during the acute inflammatory stage comprises rest and support, heat, postural and muscle exercise, hormones, and roentgen-ray treatment. Weight-bearing is prohibited whenever pain persists for a half hour after walking. Cortisone, adrenocorticotropic hormone, and hydrocortisone are effective. Temporary improvement is often induced by intraarticular injection of 25 to 50 mg. of hydrocortisone.

Contractures and stiffness or distortion of articular surfaces appear after inflammation subsides. Restriction in motion of the knee must be corrected before adequate function of muscular contraction and smooth gliding of articular surfaces can be secured. Changes of plaster casts, traction, manipulation, and surgery are utilized. Only rarely, in elderly patients, is correction impossible and permanent fixation necessary.

Serial plaster casts are the best method of treating the contractures. Traction is occasionally effective but painful. Manipulation is a useful procedure for late correction. Surgical release of contractures may be necessary if other methods fail. Tight soft tissues, fascia, tendons, and articular capsule are lengthened, and a plaster cast is applied. Distortions of the articular surface are most easily altered by osteotomy. However, a motionless knee is seldom satisfactory. To obtain motion, articular surfaces are remodeled and nylon membranes are inserted to permit gliding and prevent adhesions. Extremely thick synovial membrane, loose bodies, or degenerated and displaced semilunar cartilages are removed if pain or interference with motion continues.

The management of arthritic disabilities of the knee. Phys. Therapy Rev. 34:510-512, 1954.

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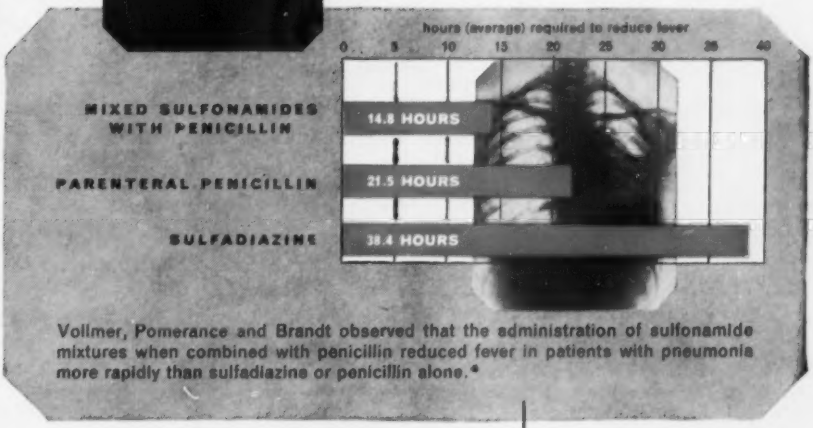

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*Vollmer, H.; Pomerance, H. H., and Brandt, I. K.: New York State J. Med. 50: 2293, 1950.

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0.167 Gm. sulfadiazine	0.167 Gm.
0.167 Gm. sulfamerazine	0.167 Gm.
0.056 Gm. sulfamethazine	0.056 Gm.
0.111 Gm. sulfacetamide	0.111 Gm.
— penicillin G	250,000 Units

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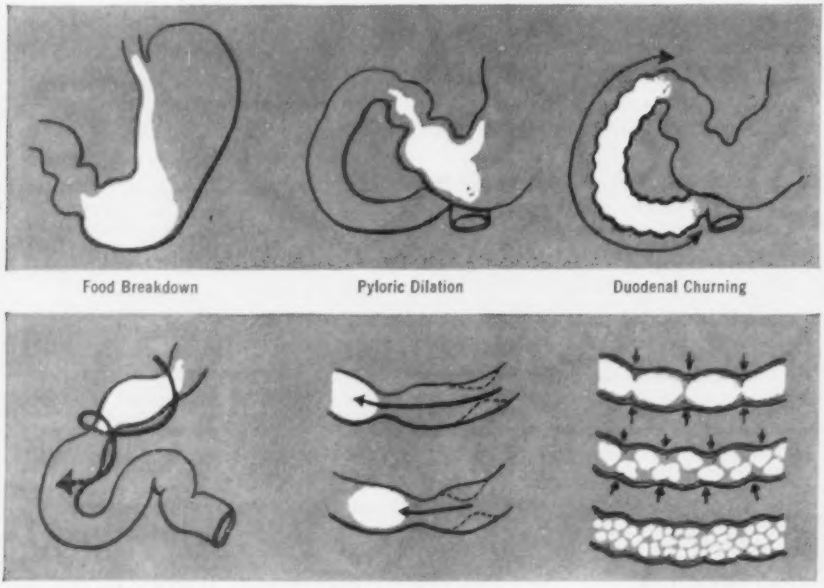

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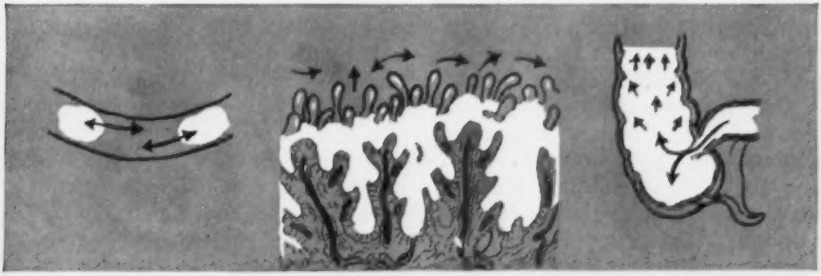
The usual adult dose is one rounded teaspoonful of Metamucil powder in a glass of cool water, milk or fruit juice, one to three times daily. An additional glass of liquid may be taken if indicated.

Metamucil is supplied in containers of 1, ½ and ¼ pound. It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association. G. D. Searle & Co., Research in the Service of Medicine.



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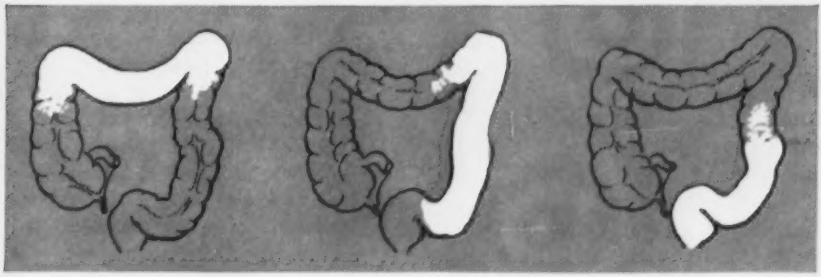

Mass Colon Peristalsis

SEARLE

Management of Cervical Disk Lesions

LEE T. FORD, M.D., AND J. ALBERT KEY, M.D.
Washington University, St. Louis

*Pain in the neck is most commonly caused by intervertebral disk disorders in the lower cervical spine.**

LESIONS of cervical disks are similar to those of lumbar disks except that the protrusions are usually more lateral in position. The spinal canal and the dural sac in the cervical area are broader and the roots traverse the intervertebral foramina in a direction almost transverse to the vertebral column. Between the margins of the bodies of the vertebrae is a small diarthrodial joint, derangement of which may also cause neck and shoulder pain.

The incidence of cervical disk lesions, as of lumbar lesions, is greatest during the fourth, fifth, and sixth decades. Often the patient is unable to relate the pain to a specific injury. The most common form of trauma is caused by an unguarded rotation of the head. Severe pain may be noted after a whiplash injury to the neck from being thrown forward when an automobile is struck from behind. Some patients may have sustained impaction injuries from falls, while diving or playing football, or from automobile collisions.

Injury in youth may cause symptoms in middle life. Roentgenograms that reveal narrowing of the disk space or sclerosis and spurring of the adjacent vertebral bodies suggest a degenerative process active some time before the onset of symptoms.

Patients with cervical disk lesions usually have had aching neck pain before radicular or brachial ache occurs. Symptoms appear intermittently and attacks may last from days to weeks. Referred or radicular pain usually evolves progressively, involving first the shoulder, scapula, arm, and upper chest and later possibly the forearm, hand, and fingers.

In most instances, actual muscle paralysis does not occur. Referred pain is produced by mechanical impingement on nerve roots or by sterile inflammation associated with degenerative changes in the underlying connective tissues of the annulus fibrosus.

The most important physical findings are limited neck motion, pain with movement over the areas of referral, and local tenderness. Usually, the head is carried in a normal position and can be moved quite freely, although range of motion is somewhat limited and some movements cause pain. However, with an acute disorder, the head is

(Continued on page 138)

*The differential diagnosis of shoulder, upper back and neck pain and the conservative treatment of cervical disc lesions. South. M. J. 47:961-968, 1954.

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[1]*Bargen, J. A., and Jackman, R. J., Journal Lancet, 72:11, Nov., 1952.*

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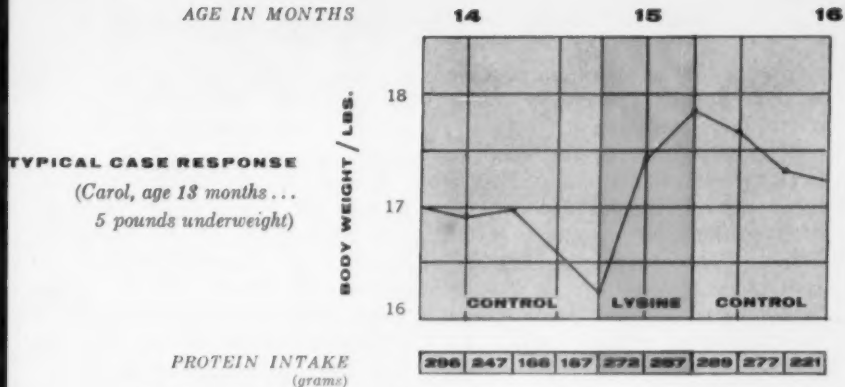

TYPICAL CASE RESPONSE
(Carol, age 13 months . . . 5 pounds underweight)

Chart shows marked effect of supplemental lysine on body weight and blood proteins of underweight child, who because of aversion to solid foods was fed milk formula reinforced with milk protein preparations. Adequate amounts of multiple vitamins (including vitamin B_{12}) were administered during both control and lysine-supplement periods. High protein and high caloric diet was without effect except for reducing appetite of the child. It was only when supplemental lysine was added to this diet that prompt appetite improvement and better utilization of dietary protein occurred. When lysine supplementation was discontinued, nutritional regression occurred.

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Lactofort is indicated for use in the nutritional management of pediatric patients with poor appetite and subnormal body weight due to a variety of causes such as in the premature infant • gastrointestinal disturbances • infection • allergy and other factors that lead to chronic impairment of food intake, absorption or utilization.

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SUPPLIED:
46 Gm. bottles containing 40 level measuring spoonfuls (dosage—1 to 2 Lactofort measuring spoonfuls daily depending on weight). A special Lactofort measuring spoon accompanies each bottle.

FORMULA
Each 2.3 Gm. White's LACTOFORT (approximately two level measures) provide:

l-l lysine (from l-lysine monohydrochloride)	500	mg.
Vitamin A acetate	3750	U.S.P. units
Vitamin D	1000	U.S.P. units
Thiamine mononitrate	0.75	mg.
Riboflavin	1.25	mg.
Niacinamide	7.5	mg.
Vitamin B_{12}	2.5	mcg.
Folic acid	0.25	mg.
Ascorbic acid (from sodium ascorbate)	75	mg.
Pyridoxine hydrochloride	0.75	mg.
Calcium pantothenate	7.5	mg.
Iron (elemental) (from iron ammonium citrate green)	7.5	mg.
Calcium (elemental) (from calcium gluconate)	130	mg.

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2. *Food and Nutrition Board, National Research Council. Publ. 1302. Recommended Dietary Allowances Revised 1963, Washington, D. C.*

maintained in an abnormal position by muscle spasm and any movement aggravates pain.

Hyperextension of the head or lateral flexion to the side of pain is most painful. Dermatome patterns of hypesthesia or anesthesia in the hand and forearm may aid localization of the lesion.

Roentgen examination of the cervical spine should include the anteroposterior and the open-mouth views, and the lateral view in flexion, extension, and the normal erect position. Diminution or reversal of the normal cervical lordotic curve, degenerative changes with narrowing of the interspace, and sclerosis and spurring of adjacent vertebrae may be noted.

Conservative treatment is satisfactory for over 95% of patients. Therapy consists of rest, immobilization with a Thomas collar made individually from electric pressboard, and traction with or without manipulation. Anodynes, sedatives, and vitamins are given as general supportive measures. Refractory distress requiring investigation by myelograms and surgical removal of the disk is rare.

Treatment of Forearm Bone Defects

E. SPIRA, M.D., TEL-HASHOMER HOSPITAL, TEL-AVIV, ISRAEL, reports an operation for pseudarthrosis of the forearm with bone loss utilizing an iliac graft and intramedullary nailing.

The defect in the radius or ulna is exposed, scar tissue is excised, and sclerotic bone is resected. A second surgical team exposes the iliac crest and prepares the graft, drilling a small longitudinal canal from one end to the other. Fixation is achieved by threading the graft onto the intramedullary nail. For radial injuries, the nail is inserted at the lower end medial to Lister's tubercle until the point emerges at the gap. When a defect of the ulna is repaired, the nail is driven from the gap into the proximal part of the bone along the medullary cavity. Cancellous iliac chips are packed around the ends of the graft. A plaster cast is worn from three to nine months. Extraction of the nail does not require exposure of the graft area.

Because of the quadrangular form with compact bone on 3 sides, the ilium has adequate strength. The substantia spongiosa has abundant red bone marrow. Another advantage of the procedure is that the graft can be cut to the desired length and diameter and may be used for bridging large gaps. Intramedullary nailing gives firm fixation without weakening the graft.

Of 12 operations utilizing iliac grafts, 9 were successful. Infection prevented union in 2 instances. In the other case, a fibrous union formed, but the functional result was good.

Bridging of bone defects in the forearm with iliac graft combined with intramedullary nailing. J. Bone & Joint Surg. 36-B:642-646, 1954.

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Oral Suspension *(chocolate flavored)*

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dropper calibrated at 25 and 50 mg.

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Methods for Prevention of Suicide

A. E. BENNETT, M.D.
University of California, Berkeley

*All physicians should be able to recognize presuicidal depression and administer preventive measures.**

In the United States, suicide is the ninth major cause of death. The national total is probably 50,000 a year. Figures are not complete because some suicidal deaths are concealed by relatives or listed as automobile accidents. Deaths occurring weeks after attempts at self-destruction are often not included in statistics. About a sixth of persons who commit or attempt suicide kill or try to murder 1 to 5 people beforehand.

DIAGNOSIS

Of the individuals who attempt suicide, half have psychoneurotic depression, a few have organic diseases, and the remainder are psychotic. About 70% of the psychotic depressions are manic depressive and the rest are involutional or schizophrenic.

Physicians should note signs of depression while interviewing patients, for instance, complaints unexplained by organic findings. Emotional reactions should be evaluated.

Insomnia is an early symptom of depression. The patient awakens early in the morning and, later, cannot fall asleep at night. Severely depressed persons often get up at night, pace the floor, and smoke. Anorexia is another sign and may cause weight loss and constipation.

Patients lack interest in former occupations, friends, relatives, and hobbies and feel mentally and physically sluggish. Extra effort is necessary to get up in the morning and go to work. Loss of libido or sex drive is common, and a patient greatly concerned about impotency or frigidity is prone to suicide.

Some patients deny despondency or express discouragement only occasionally. The physician can evaluate the degree of depression by inquiring whether the patient wishes to die or would like to give up and quit.

THERAPY

Depression should never be dismissed by sending the patient on a vacation. Barbiturates should not be prescribed for insomnia; about 20% of suicidal deaths are from barbiturate poisoning. Arguing or cajoling may increase despair of the patient.

If depression is psychoneurotic, reactive, or depressive, out-patient care with psychotherapy may be effective. Hospitalization is probably not necessary for persons with slight self-inflicted injuries, since the lesions often are the result of

*Prevention of suicide. California Med. 81:396-401, 1954.

hysteria or attention-seeking rather than suicidal wishes.

Insight and cooperativeness of the patient must be evaluated. The patient must feel encouraged and hope to solve the problem with the doctor's help. If rapport cannot be established, the physician should refuse to accept further responsibility unless the family cooperates in psychiatric care.

Immediate hospitalization and psychiatric consultation is advisable for patients with psychotic depression or if the suicide potential cannot be evaluated. Symptomatic therapy such as stomach lavage or emergency surgery is inadequate if self-destruction has genuinely been tried. Of 211 hospital admissions for attempted suicide, 55 had been admitted two to five times previously for the same reason.

Treatment differs according to the type of depression and degree of emergency. Electroshock therapy is often beneficial. Once a patient is in the hospital, premature removal should not be allowed. The recovery period is the most dangerous for would-be suicides.

PREVENTION

Physicians and laity should be educated concerning early detection of depression and relationship of accident proneness to suicide. Lay associations could be established to publicize danger signals and motives for suicide and to organize clinics for persons with suicidal tendencies.

Legal restraints on use of barbiturates are necessary. Police should learn how to deal with suicidal attempts. Hospital administrators should be urged to include psychiatric treatment for attempted suicide. Study of case records would increase understanding of the personality and motives of persons who attempt suicide.

All attempts at self-destruction should be registered as are other dangerous diseases. A public health nurse should make certain that the patient is receiving adequate psychiatric care.

Regulation of Insulin Coma Therapy

R. K. GREENBANK, M.D., NORWAYS FOUNDATION HOSPITAL, INDIANAPOLIS, advocates the use of intermittent subcutaneous clysis of 10% glucose in Ringer's lactate solution with hyaluronidase to control insulin coma in patients with schizophrenia.

Clysis is started when the third stage of coma is reached. Infusion is started in both thighs using disposable Y tubing and No. 22 clysis needles; 150 units of hyaluronidase is injected into each tubing just after clysis is begun. The rate of flow may be altered as desired. Deep coma can usually be relieved within twenty minutes.

Veins are spared for emergencies, and painful, disfiguring hematomas do not occur.

A new aid to insulin coma therapy. Psychiatric Quart. 28:395-397, 1954.

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Thoracic Intervertebral Disk Herniation

JOSEPH A. EPSTEIN, M.D.
St. John's Episcopal Hospital, Brooklyn

*Surgery for protruded thoracic intervertebral disk is often successful if the diagnosis is established before spinal cord damage is severe.**

SINCE a herniated thoracic disk does not involve the spinal cord early in the course of disease, central nervous system disease is rarely suspected. Irritation of nerve roots frequently simulates abdominal or back pain or neuralgia, and ineffective, unnecessary operations are often performed.

Prognosis is poor if laminectomy is delayed. Prolonged compression produces severe tissue alterations and irreparable cord damage.

An early diagnosis may be established if nerve root compression in the thoracic region is suspected even when neurologic deficit is slight. Spinal fluid studies and roentgenograms may not reveal alterations, but myelographic examination is diagnostic.

Thoracic disk herniation occurs in middle-aged or elderly persons. Trauma is not a significant factor.

Radicular pain, caused by encroachment of tissue at the interspace on the intervertebral foramen, is experienced by half of the patients. Discomfort may be described as crushing, sharp, burning, or pushing and is accentuated by movements of the spine. Since the lower segments are most frequently affected, pain radiates to the abdomen and groin. In the upper thoracic spine, pain is girdle-like and may affect the back or an intercostal space.

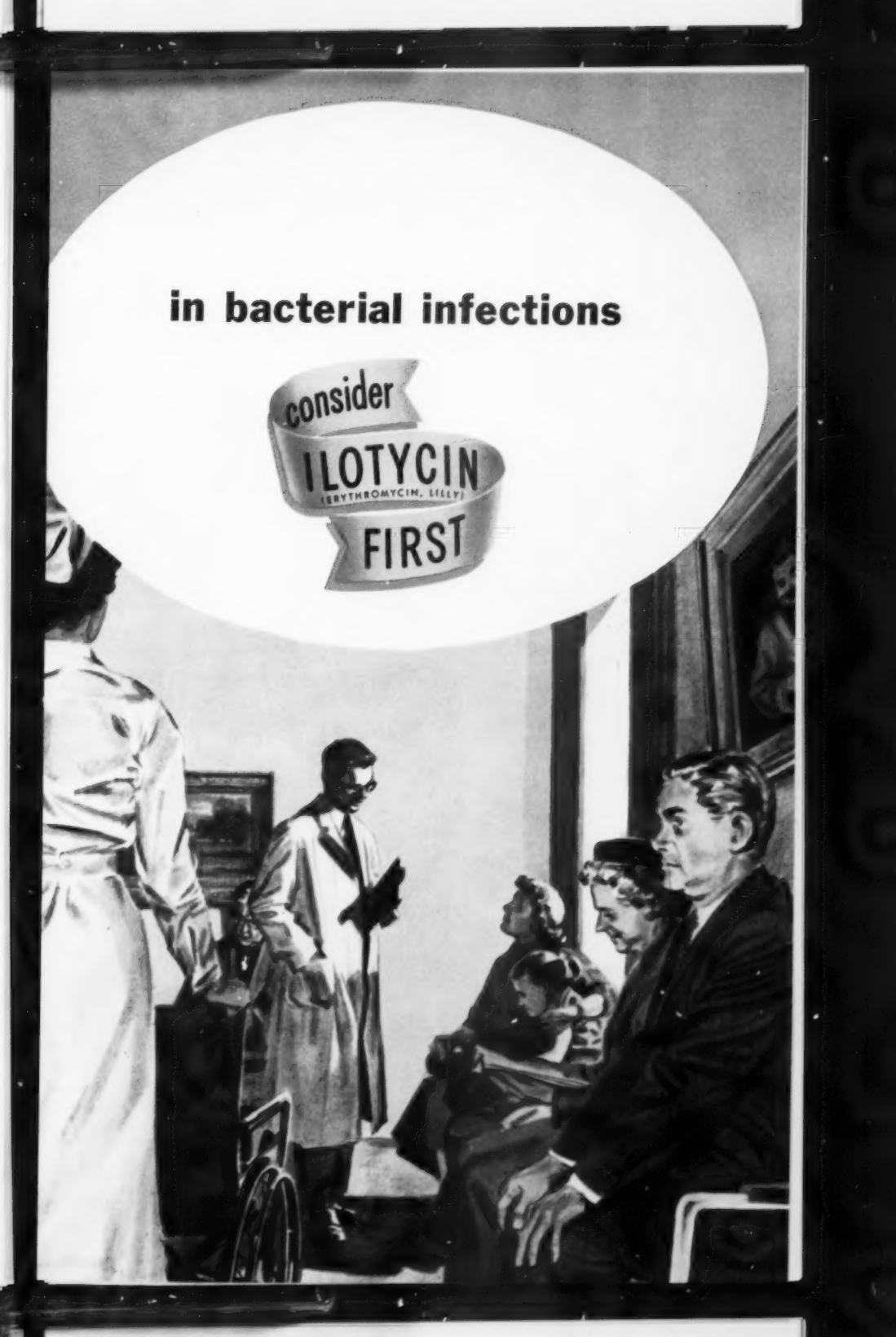
Sensory alterations are increased skin sensitivity and partial numbness. The lesion may be localized by noting loss of superficial abdominal reflexes.

The roentgenographic examination may reveal osteophytes at the intervertebral margins. However, severe root compression may occur before calcification narrows the width of the interspace.

In the early stages of disease, spinal fluid is not altered. Later, lumbar puncture discloses an elevated protein level and block by jugular compression. When the lesion is lateral, block to an open manometric system is usually only slight.

When the diagnosis is in doubt, myelographic studies must be made. A partial or complete block occurs in the cephalad flow of Pantopaque at the level of the involved space. Since the oil may not be retained at the defect long enough to obtain films, fluoroscopic study is necessary.

*The syndrome of herniation of the lower thoracic intervertebral discs with nerve root and spinal cord compression. J. Neurosurg. 11:525-538, 1954.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When the protrusion is far lateral, operation is not urgent but may be done to relieve pain. Hemilaminectomy or simple uncapping of the involved nerve root may be adequate. Dorsal rhizotomy is done to insure relief of pain. Denticulate ligaments are divided to lessen traction on the cord and permit greater freedom of movement.

Surgical decompression is mandatory if the spinal cord is involved. If necrosis of the cord is noted, surgery should be restricted to decompression. Simple decompression should be substituted for radical excision if a transverse bony spur is found.

Pituitary forceps should be used instead of sharp chisels and cutters because of the extreme vulnerability of the thoracic cord to trauma.

¶ PSYCHOSIS AFTER ACTH OR CORTISONE therapy may result from predisposition related to the underlying disease. Although the symptoms were predominantly affective in 4 of 5 patients, W. H. Trethowan, M.B., of the University of Manchester, England, observes that signs of organic impairment were found at some time in all subjects. In 3 patients, the mental disturbance terminated spontaneously.

Acta psychiat. et neurol. scandinav. 29:243-259, 1954.

¶ ACUTE QUADRIPLEGIA may be caused by hematomyelia induced by treatment with dicumarol. In 1 patient observed by Alex J. Arieff, M.D., and Stanley W. Pyzik, M.D., of Northwestern University, Chicago, complete paralysis occurred on the seventeenth day of medication. The patient now has incomplete paraplegia as part of a modified Brown-Séquard syndrome. The drug had been given in a dosage of 100 mg. daily, after an initial dose of 300 mg., to combat ascending thrombophlebitis of the leg resulting from trauma.

Quart. Bull. Northwestern Univ. M. School 28:221-222, 1954.

¶ LESIONS OF THE BRAIN induce changes in the glucose tolerance curve specifically related to the area involved, but abnormalities caused by damage to the cervical cord adhere to no fixed pattern. While defects in the region of the hypothalamus are usually associated with low values of fasting glycemia and increased glucose tolerance, J. P. Segundo, M.D., E. Balea, Ph.D., and R. Arana, M.D., of the Institutes of Neurology and Physiologic Sciences, Montevideo, Uruguay, find that disturbances in the cerebral hemispheres result in lowered thresholds. Spontaneous glycosuria is frequently associated with tumors of the posterior fossa.

J. Neurosurg. 11:583-595, 1954.

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Symposium on Fenestration

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Incidence of Otosclerosis

JAMES B. MC BEAN, M.D.

PROGRESSIVE conduction deafness from otosclerotic alterations occurs principally in young white adults, especially women.

If looked for at postmortem examination, sclerotic lesions of the ear are found in 4% of persons above 5 years old at death. However, hearing is impaired in only 1 of 8 instances of the disease because many lesions occur in silent areas.

Deafness is often familial and generally starts between ages of 16 and 30 years. Tinnitus is a frequent complaint. Tympanic membranes appear normal. The chance is small that pregnancy hastens hearing loss.

Disease may begin in any part of the bony labyrinth but generally involves the region just in front of the oval window. Here the process may fix the stapedial footplate and produce conduction deafness. Silent lesions are situated elsewhere or do not hamper ossicular movement greatly. Though defects near the round window or in other locations seldom lessen hearing, encroachment on the membranous labyrinth may cause hydrops and Menière's symptoms.

The primary cause of otosclerosis may be chemical, vasomotor, or allergic damage to the blood supply of the labyrinthine capsule. Susceptible regions possibly have more or less terminal capillaries with scant or no opportunity for anastomosis.

Pathologic Changes

HENRY A. BROWN, M.D.

THE otosclerotic lesion is a spongy area in the bony capsule surrounding the membranous labyrinth, a form of osteodystrophy much like Paget's or Recklinghausen's disease.

Defects may be as little as 1 mm. in diameter or involve most of the capsule. Though 1 lesion per ear is the rule, 2 and occasionally 3 or more may occur. The disease is usually bilateral.

Audiometry

KINSEY M. SIMONTON, M.D.

HEARING tests show degrees of acoustic nerve dysfunction and impediment to sound transmission in the middle ear. Deafness is measured with the actual voice, tuning fork, and electric audiometer.

Interview may disclose paracusis willisiana, a sign of conduction deafness. The patient can hear best in noisy surroundings because ambient sounds are muffled and the speaker is inclined to shout.

*Symposium on fenestration. Proc. Staff Meet., Mayo Clin. 29:519-535, 1954.

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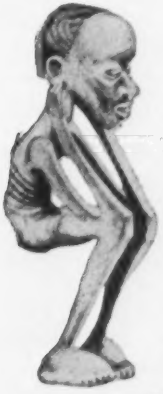

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Dosage: RESION—1 tablespoonful hourly for 4 doses; then every 3 hours while awake. RESION P-M-S—1 tablespoonful hourly for 3 doses; then 3 times daily.

Supplied: RESION, in bottles of 4 and 12 fluid ounces. RESION P-M-S, bottles of 4 fl.oz.

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Voice tests furnish rapid estimates but are inaccurate, since even trained speakers pronounce words with variable force.

Tuning fork tests are of several types. With the Weber technic, the stem of a vibrating fork is held against the midline of the skull. Sound referred to the poorer hearing ear indicates faulty conduction, and reference to the better ear means deafness is caused by cochlear or nerve injury.

The Schwabach method determines nerve function. Levels of bone conduction hearing are compared in subject and examiner by duration of the sound measured in seconds.

In the Rinne test of middle ear function, the fork is alternately held in front of the ear and against the mastoid process, allowing comparison of air and bone conduction. Normally, a fully vibrating instrument with rate of 256 or 512 per second is heard twice as long by air as through bone. The ratio is diminished by impairment.

Watch tick roughly measures perceptive deafness to high frequencies beyond 2,000 double vibrations (d. v.) per second. However, reduced hearing distance may have little meaning.

The *electric audiometer* produces and delivers pure tones of controlled frequencies and intensities and delivers speech signals from live voice or phonograph recordings. Receivers are provided for both air conduction, through ear phones, and bone conduction.

The instrument in most common use gives octave tones ranging from 125 to 8,000 d.v. per second and half octave tones at 1,500 to 10,000 d.v. Intensities are calibrated in 5-decibel steps. A barely perceptible tone is rated 0 decibel, and ordinary conversation is about 60 decibels.

The audiogram records the pure tone threshold with frequencies as the abscissa and intensities as the ordinate. Air conduction is represented in black, bone in red. The right ear is designated with circles joined by solid lines, the left with X's and broken lines.

Speech audiometric study denotes ear function above barely perceptible threshold intensities, and measures the ability to resolve complex sounds into communication. The following signals were selected at the psychoacoustic laboratory of Harvard University:

- Speech reception is tested by spondaic words such as railroad, baseball, and housetop. Hearing threshold is the intensity at which half the words are repeated correctly by the auditor. Results agree closely with the average of pure tone thresholds for speech at 500, 1,000, and 2,000 cycles per second.
- Speech discrimination is evaluated by monosyllables, each list of 50 words covering the phonetic range of the English language. On the chart, intensity is the abscissa and percentage of words repeated correctly is the ordinate. Results do not always correlate with those of threshold tests.

In records of *middle-ear conduction deafness*, the air conduction threshold generally remains flat or rises toward higher frequencies, while bone conduction is about nor-


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mal. Speech reception is approximately at average levels for pure tones in speech frequencies. By the discrimination test, 90 to 100% of phonetically balanced words are heard at optimal intensities and above.

With *perception or nerve deafness*, the air conduction threshold for pure tones is subnormal and falls at higher frequencies. Thresholds for bone conduction are similar. Speech reception approximates the pure tone threshold for speech frequencies. The curve of discrimination levels off before reaching the normal zone of 90 to 100%.

With *cochlear deafness*, characteristic of Menière's syndrome, the air conduction curve for pure tone is flat or mounts at higher frequencies, and bone conduction is about the same. Speech reception follows the pure tone curve. Discrimination rises to a maximum, then drops as intensity of the signal is increased.

Criteria for Surgery

CLIFFORD F. LAKE, M.D.

CANDIDATES for fenestration are classed as ideal, fair, or poor. Ideal subjects have 75 to 80% chance of satisfactory outcome; fair, 50 to 60%; and poor, 30 to 35%.

General health and emotional stability are determined preoperatively, and external otitis is eliminated. Dense scars of tympanic membranes, healed perforations, or other changes may indicate adhesive deafness and a less hopeful outlook.

Ideal candidates have moderate hearing loss and may be recognized by Schwabach's test as modified by Lempert. Tuning forks of 256, 512, and 1,024 d.v. are employed with a mask for the ear not being examined.

The sounding fork is placed near the ear canal and when no longer heard is set on bone. The fork with lowest pitch should be audible 10 to 15 seconds longer by bone than by air; the middle pitch, 5 to 8 seconds longer; and the highest, 3 to 5 seconds longer.

In the audiogram, bone conduction is normal. The air conduction threshold is not under 45 to 50 decibels in the entire range and may be higher for tones above speech limits. Speech reception approximates the average value for pure tone threshold in speech frequencies, and 90 to 100% of phonetically balanced words are heard at above optimal intensities.

Fair candidates have more advanced deafness, with bone conduction in the lower limits of normal at 2,000 and 4,000 d.v. and less time difference between air and bone conduction than ideal candidates. The audiometric air curve is nearly straight across the graph or dips slightly for tones above 4,000 d.v. Speech reception threshold is about the average decibel loss, and 85 to 90% of balanced words are heard at or above optimal intensities.

Poor subjects for fenestration have secondary degeneration of nerves with otosclerotic deafness. With the fork of 1,024 d.v., intervals for air and bone conduction may appear equal.

By an audiometric examination, bone conduction of the 250 d.v.

tone is usually normal but passage of 500 d.v. is just below normal. Progressional decrease is noted, and 2,000 d.v. is at the 30-decibel line. Air conduction also decreases rapidly past 2,000 d.v. Losses are equal by speech reception and pure tone audiometric studies, and speech discrimination rates 85%.

History of Operation

OLAV E. HALBERG, M.D.

Ankylosis of the stapes in the oval window was recognized in the eighteenth century by Morgagni and Valsalva. Not until 1890, however, did Katz relate otosclerosis to conduction deafness.

Starting in 1896, attempts were repeatedly made to form a permanent opening in the bony capsule of the labyrinth, allowing sound waves to bypass the stapes and enter the membranous labyrinth directly. Major problems were postoperative infection of the inner ear and closure of the artificial window by regenerating bone.

In 1938, Lempert described the first practical method of fenestration, performed in 1 stage through an endaural approach. A fistula was made into the prominence of the horizontal semicircular canal with a dental finishing bur. A thin flap of skin obtained from the meatal wall was placed over the fenestra.

In 1940, Shambaugh introduced continuous irrigation during operation to prevent bone dust from entering the new window. In 1941, Lempert moved the site to the bony ampulla of the horizontal canal, adopting the term fenestra nonovalis. This wider opening is now universally approved.

A cartilage stopple was placed in the window from 1944 on, in hope of averting labyrinthitis and closure, but eventually had to be adandoned. Lempert's invagination method described in 1950 made occlusion a rarity. The flap was pressed down firmly over the window, leaving a slight depression.

Physiologic saline, used as irrigating fluid for years, was challenged as hypotonic as compared to perilymph. Lamp prepared a fluid, presumably isotonic with the endolymph, and reported good results in 1952. Postoperative vertigo and nystagmus decreased, most patients were able to walk in a day or two, and hearing quickly improved.

Surgical Technic

HENRY L. WILLIAMS, M.D.

As the basic procedure in fenestration, an opening is made through the lateral wall of the horizontal semicircular canal and covered by the Lempert flap. When waves of force enter the external auditory meatus, corresponding waves in endolymphatic fluid actuate cells of the organ of Corti.

Owing to destruction of the impedance-matching ossicular chain, which facilitates transfer of the sound wave from air to fluid, hearing can never be brought closer than 20 decibels of normal. Since the critical level for speech lies at 30 decibels, the patient is not aware of a handicap during ordinary conversation if hearing is brought close to the 20-decibel line.

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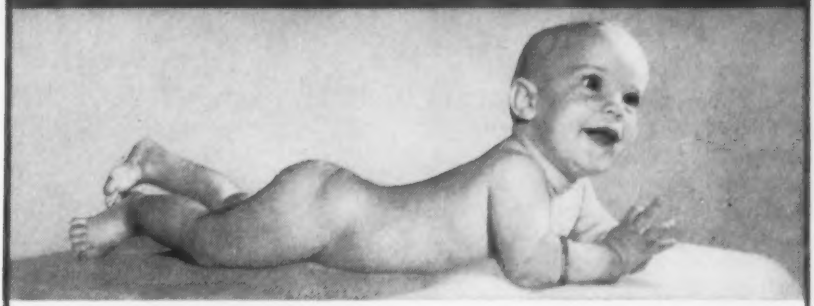

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Fenestration carries hardly more risk than anesthesia alone; no deaths resulted among more than 600 operations. Nevertheless, technic is difficult, and the most important steps require some magnification.

The endaural approach starts in the concha anterior to the auricular cartilage. The incision is brought up and forward through the region deficient in cartilage just above the tragus.

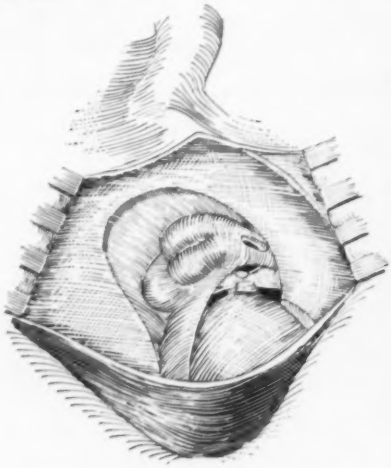
The portion of skin posterior to the incision is elevated and a wedge of soft tissue excised beneath. In completing surgery, the skin flap is turned medially and backward to cover the exposed edge of auricular cartilage and prevent atresia of the external ear canal.

After the skin is incised, tissues are raised from the temporal bone and the site of operation is bared. The mastoid antrum is opened with a Hudson drill, which makes a larger exposure than a perforating mill. Moreover, dura that are accidentally encountered by the drill can be pushed aside without causing injury.

The horizontal semicircular canal is identified, and mastoid cells are exenterated with Lillie-Williams curets and a mill driven by the Jordan-Day surgical engine.

Bone lateral to the epitympanum is removed, and the malleoincudal joint is exposed. The membranous canal is freed superiorly from the bony wall of the external auditory canal, and the bridge is removed. The incus is taken out, and the head of the malleus is cut off.

Endochondral bone of the horizontal semicircular canal is denuded of cancellous bone, so that the canal stands above neighboring structures. Thus the window can be formed on a prominence, in a type of bone unlikely to regenerate. The fenestra is made by nonovalis technic, as far forward over the vestibule as possible (see illustration), under a constant flow of Lamp's fluid.



The Gullstrand 2x loupe is used to fashion and fit the tympanomeatal flap, which is turned down over the window and fixed in position using Lempert's invagination method.

The flap is packed against the fenestra by ¼-in. ribbons of vaseline gauze about 6 in. long; silk threads at the end allow easy withdrawal. Further pressure is applied with a paraffin gauze basket packed with cellulose sponge strips. The basket is removed on the fourth day after operation and the ribbons two days later.

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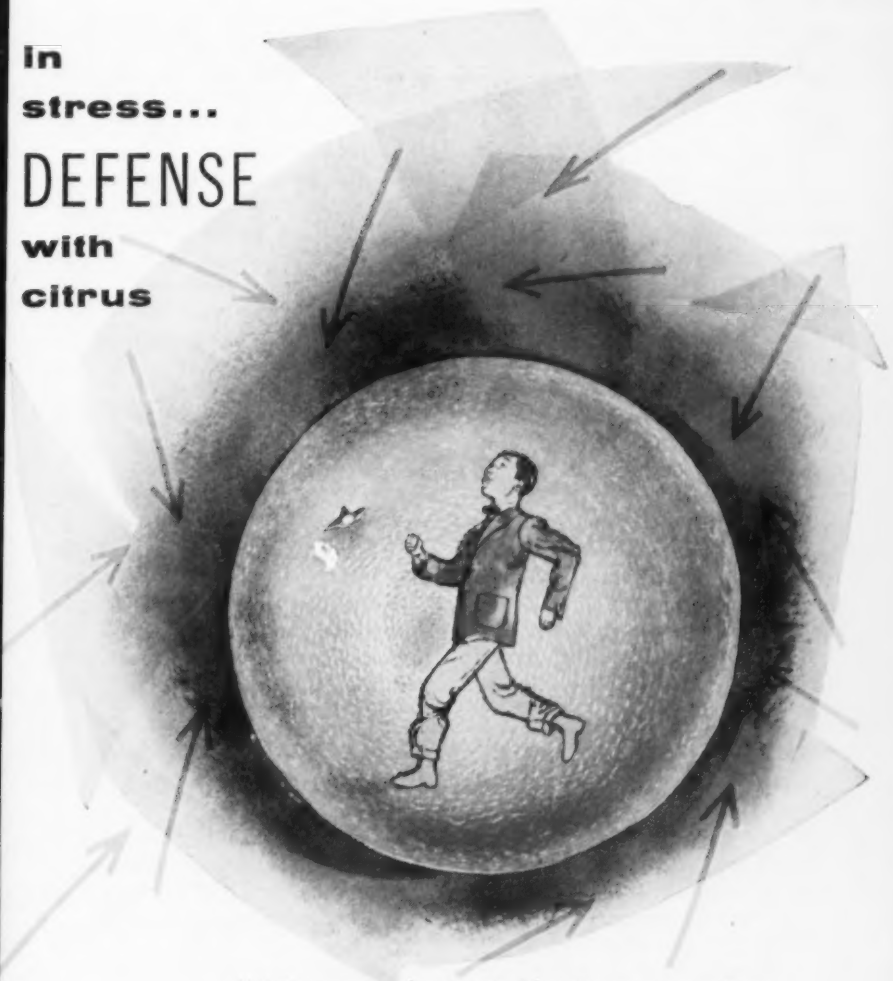

Maintenance of adrenocortical function as a cornerstone of resistance in stressful life situations helps prevent disorders characteristic of the general adaptation syndrome. Since vitamin C is essential to production of anti-stress hormones by the adrenal cortex, a natural defense against stress disorders is an ample intake of readily utilized *natural vitamin C* as provided by citrus fruits and juices.

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Postoperative Care

JOHN C. LILLIE, M.D.

With use of Lamp's solution, the postoperative hospital period after fenestration rarely exceeds four to eight days.

The cavity is examined and wiped out carefully every other day for about two weeks. Prophylactic penicillin is administered, and dusting powder of the antibiotic may be blown in the cavity. The patient may change cotton in the external canal as often as necessary, but cotton should be omitted throughout the day to speed recovery.

Most people have moderate vertigo for a short time after surgery. If unsteadiness persists, Dramamine or Benadryl and scopolamine may be given for two or three weeks.

If granulations form, a curet is used and silver nitrate or another cauterizing agent may be applied. Occasionally, instructions are given to wash the cavity with boric acid and alcohol drops.

At the postoperative review in six months, most cavities are dry and healed. A partly stenosed external ear canal should be managed like the same condition after mastoidectomy. After healing, the cavity must at times be cleansed gently of wax and debris; injury to the fenestra must be avoided.

Results are statistically perfect in about 80% of cases, that is, hearing in speech frequencies of 500, 1,000, and 2,000 cycles is raised above the 30-decibel loss, or hearing is socially adequate without an aid.

Bony closure of the fenestra is exceptional, and satisfactory improvement maintained for a year will almost certainly be permanent.

Complications of Endotracheal Anesthesia

MOSHE FEINMESSER, M.D., LEONIE ALADJEMOFF, M.D., AND MARKHAM SYDNEY CHAYEN, M.C., ROTHSCHILD-HADASSAH UNIVERSITY, JERUSALEM, report that bronchoscopic suction and tracheotomy may be required to relieve obstructive symptoms after endotracheal anesthesia.

Postoperative laryngeal stridor was noted in 2 women and 3 children after endotracheal intubation for two to four hours. A grayish-white, fibrinous, subglottic membrane was found in all patients, and *Staphylococcus albus* and *Staph. aureus* were obtained on culture.

Since the larynx is relatively small in women and children and trauma to the delicate mucous membrane is not uncommon, proper positioning of the patient, relaxation of the larynx, gentle use of a light weight laryngoscope, and tubes of suitable caliber and shape are recommended to lessen damage from the procedure.

Some laryngotracheal complications associated with endotracheal anesthesia. Arch. Otolaryng. 59:555-559, 1954.

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0.1 mg. and 0.25 mg. tablets, bottles of 100 and 1000.

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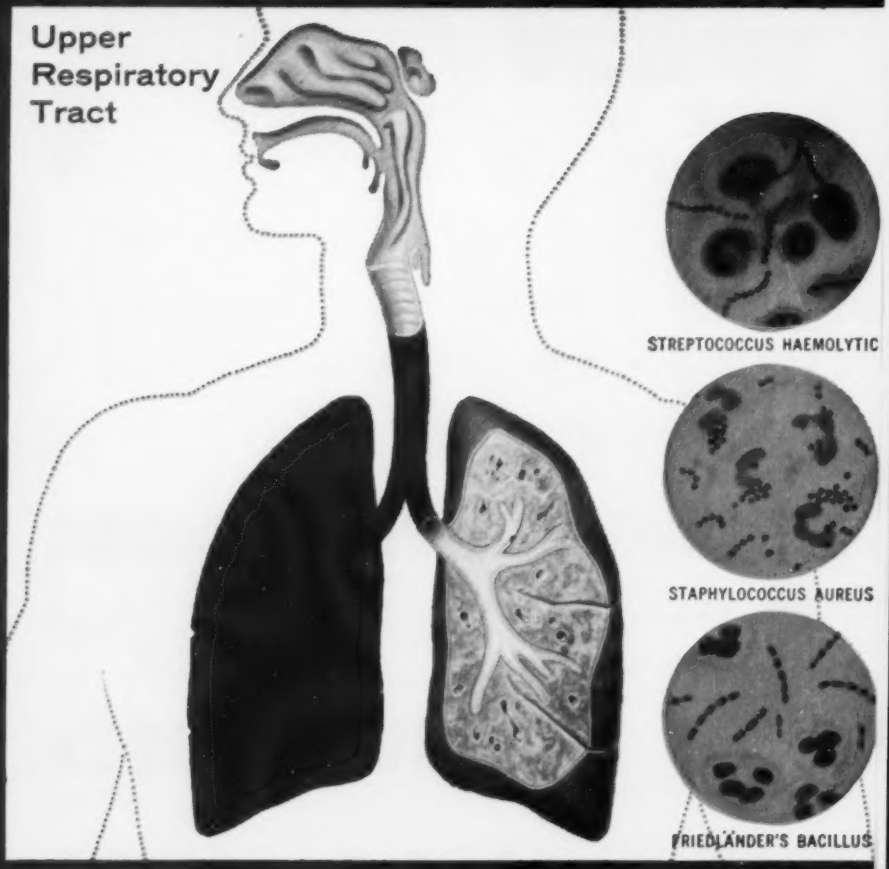

FOR MULTIPLE ATTACK

Infections of the upper respiratory or lower urinary tract are commonly associated with mixed bacterial pathogens. Combination therapy is the logical approach.[1,2]

BICILLIN-SULFAS provides multiple attack through two distinct antibacterial mechanisms. These actions give the physician the means to achieve control over a wide range of mixed infections,

TABLETS

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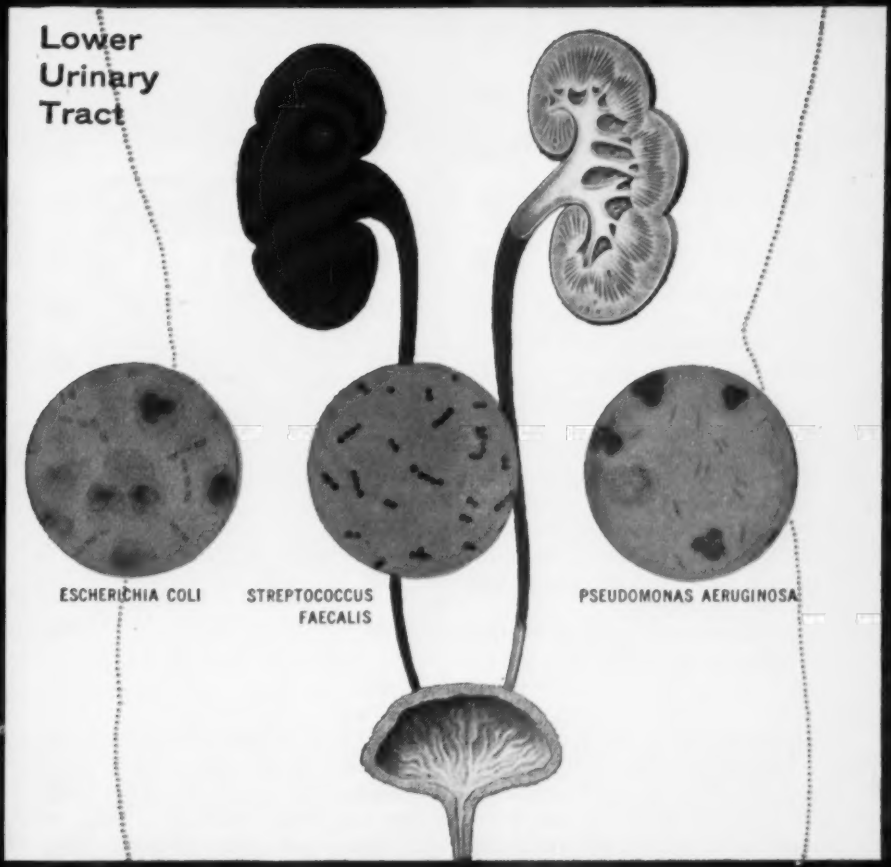

ON MIXED INFECTIONS

both gram-positive and gram-negative. BICILLIN-SULFAS combines BICILLIN, the penicillin with a surety factor for absorption, and SULFOSE®, the highly soluble triple sulfonamide of low renal risk. For oral therapy distinguished by maximal safety and effective blood levels.

1. Daly, J.W.: Antibiot. & Chemo. *4*:687 (June) 1954. 2. Spink, W.W.: J.A.M.A. *152*:585 (June 13) 1953.

SUSPENSION

SULFAS

Dipenicillin G) and Triple Sulfonamides

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Philadelphia 2, Pa.

Barotrauma from Air Travel

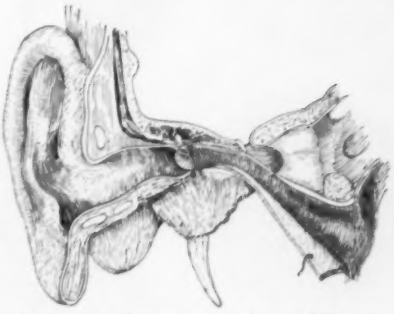
E. D. DALZIEL DICKSON, M.D.
Royal Air Force, England

*When atmospheric and intratympanic pressures are not equal, traumatic inflammation of the middle ear or sinuses may occur.**

BECAUSE of the growing popularity of air travel, the general practitioner is likely to be confronted by an increasing number of patients with barotrauma, a condition caused by maladjustment to atmospheric pressure variations.

During ascent, a sinus with an unobstructed ostium allows the gaseous contents to move outward; on descent the flow is inward. Usually, the movement is not accompanied by structural change. However, 2 conditions may prevent or alter the flow: [1] pus, fluid, or mucus covering the ostium or [2] obstruction of the ostium by redundant tissue or anatomic deformity. The same mechanism is involved in the middle ear except that during descent, the individual may control opening of the eustachian tube by yawning, swallowing, or sneezing.

Proper ventilation of the middle-ear cleft and sinuses may be impaired by upper respiratory infection. Changes in the mucosa of the nose or nasopharynx often affect the lining of the eustachian tube, middle ear, or frontonasal duct and influence their lumen and patency.



Sites of obstruction in the middle ear, eustachian tube, and ostium

Adenoid tissue near or around the pharyngeal ostium of the eustachian tube may cause dysfunction, particularly if the fossa of Rosenmüller is involved. Lymphoid tissue, most common at the pharyngeal end of the eustachian tube, may become inflamed and result in otitic barotrauma. Nasal allergy, obstruction, and polyposis with underlying infection may also be responsible.

Otitic barotrauma, an acute or chronic traumatic inflammation of the middle ear, consists of pain, tinnitus, vertigo, and deafness. The condition may affect one or both ears. Deafness and pain range from slight to unbearable. Duration of hearing loss depends on the extent of initial trauma and secondary tissue damage. The tympanic membrane may be slightly retracted, with injection of Shrapnell's mem-

*Upper respiratory infection in air travel. Practitioner 173:678-682, 1954.

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VIFORT is an aqueous polyvitamin containing synthetic vitamins A and D in small particle size plus five B vitamins; vitamin C; and vitamin E. No fishy taste or odor.

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ENDO PRODUCTS INC., Richmond Hill 18, N. Y.

brane and the handle of the malleus, or hemorrhage may be noted in the middle ear with or without traumatic rupture of the drumhead. The condition should be distinguished from acute suppurative or secretory otitis media and myringitis bullosa hemorrhagica.

Pain is relieved by ventilation of the middle ear. Contributing etiologic factors must be corrected. Traumatic ruptures are treated expectantly. Sterile cotton-wool is inserted into the meatus; irrigation and drops are avoided. Vasoconstriction is accomplished by use of 0.5 to 1% ephedrine sulfate directed to the nose and nasopharynx. When possible, reascent in aircraft or pressure chamber with gradual descent is useful. Lymphoid tissue in the eustachian tube may be treated by deep roentgen therapy, never exceeding 1,400 r in two weeks. Six weeks is allowed to elapse after radiation before the patient is exposed to further pressure variations.

Sinus barotrauma affects nasal accessory sinuses and must be differentiated from purulent or catarrhal sinusitis, although the condition may be superimposed on previous infection. Congestion and inflammation of lining structures, acute pain over the area of the sinuses, and mucosal or submucosal hemorrhage may occur. Vasoconstriction and inhalations usually relieve the acute stage in a few hours to a few days, although absorption of a hematoma may require a period of several weeks.

To prevent the condition, persons with upper respiratory infections, nasal allergies, obstructions, or polyps should avoid great changes in barometric pressure until adequate nasal and sinus ventilation has been established.

Lightweight Portable Respirator

SYRREL S. WILKS AND JOSEPH F. TOMASHEFSKI, U.S.A.F. SCHOOL OF AVIATION MEDICINE, RANDOLPH FIELD, TEX., describe an easily carried portable respirator which can be used for brief emergency operation or for transportation of completely or partially apneic patients in airplanes, ambulances, or other conveyances.

The unit, designated the SAM respirator, includes the shell, pump, chassis, battery, power unit, rectifier, and hand pump and weighs approximately 255 lb. The motor operates on 24 volts D.C. or, by means of a rectifier, on 110 volts A.C. A variation of the power unit allows operation on 110 volts A.C. by use of a vacuum cleaner motor.

A hand-operated bellows on the bottom of the tank enables emergency operation. Adequate ventilation can be maintained at levels above 18,000 ft. by use of appropriate combinations of positive and negative intratank pressures.

Results of in-flight testing of SAM portable respirator on poliomyelitic patients. J. Aviation Med. 25:265-274, 1954.

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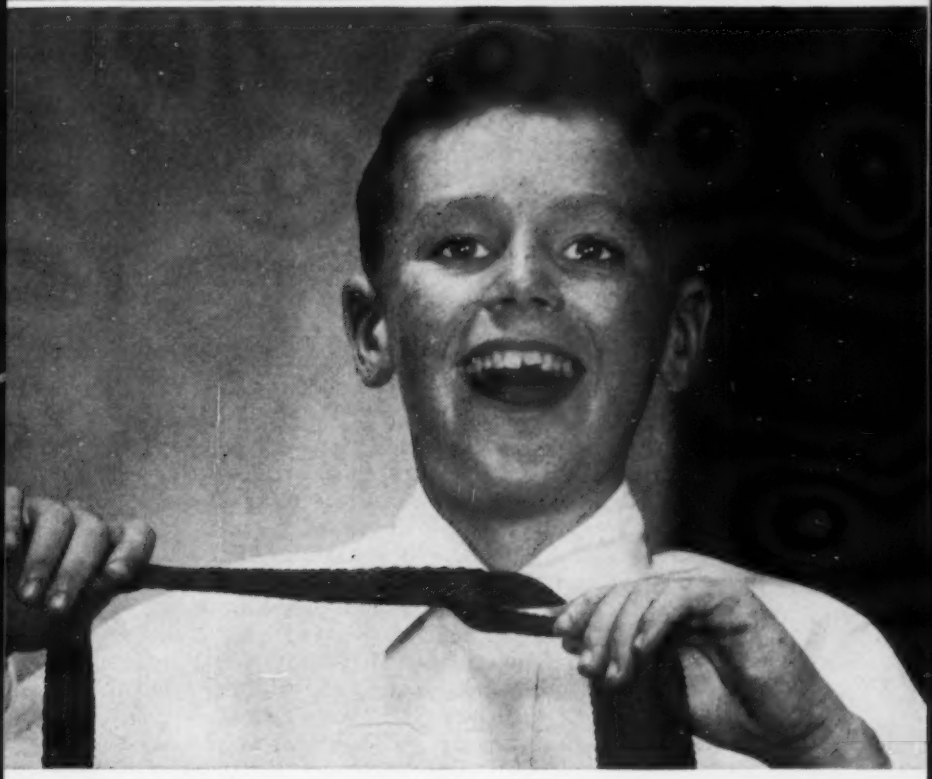
help sore throats feel better, faster

MAJOR ADVANTAGES: Two well-accepted topical antibiotics for local antibacterial effect. Benzocaine for soothing local anesthesia.



Patients like the fast and effective relief that TRACINETS bring to sore, irritated throats. When you prescribe TRACINETS, you give your patients the *combined* antibacterial action of bacitracin and tyrothricin. The benzocaine gives soothing local relief. TRACINETS are also an ideal supplement to systemic therapy of severe throat infections.

Supplied: Each troche contains 50 units of bacitracin, 1 *mg.* of tyrothricin, 5 *mg.* of benzocaine. In vials of 12.

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BOOK CHAPTER

The Psychology of Accidents

JUSTUS J. SCHIFFERES, PH.D.
National Foundation for Infantile Paralysis and Health Education Council, New York City

In the three seconds it will take you to read this sentence, somewhere in the United States somebody has been seriously hurt in an accident. During the next five minutes, someone will be killed in an accident. More Americans have been killed in traffic accidents than in all the nation's wars.

Since all statistical records reveal that the cause of accidents is people, discussion will be directed to the kind of people most liable to have accidents and to the unconscious drives and circumstances most likely to cause accidents.

Safety engineers have done much to identify the places and situations in which accidents are most likely to occur. Also, much has been done to identify the people most likely to be involved in accidents, the so-called "accident prone." But neither engineers nor accident statisticians can tell why a particular accident has happened or is going to happen. Accidents have causes, but the causes are often so personal, so obscure, and so complex that they cannot be related to the scene of the mishap.

ACCIDENT PRONENESS

Accidents can happen to anybody, but the person who has already had an accident appears the most likely to have another and the person who has many minor accidents is likely to meet a big one. Uncorrected sensory defects account for some cases of accident proneness, but modern psychiatry offers a deeper explanation.

Having an accident resolves intolerable conflicts in the unconscious mind of the accident-prone individual just as drinking does for the alcoholic. A repeated pattern of accidents can be considered a poor and damaging pattern of life adjustment.

Every accident-prone individual has a specific personality structure and unconscious motivations, but psychoanalytic study has revealed some of the broad emotional characteristics of the type.

- Brought up in a strict home, the person deeply resented and often flouted parental authority. This resentment of authority is carried into early adult life, and bosses, policemen, and all other symbols of authority are hated.
- Though many people admire the person for daring, bravado, and the air of excitement he creates, he rarely feels strong emotional attachments to other people.

(Continued on page 170)

An abridgement of Chapter 27 in the book *Healthier Living*, 928 pp. Published by John Wiley & Sons, Inc., New York City, 1954. $6.75

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Subcutaneously or intramuscularly, 0.5 to 1 cc. will relieve ulcer pain within 15 minutes. Injections can be repeated every 8 hours.

Orally, one or two Skopolate 2 mg. tablets t.i.d. ½ hour before each meal; 1 or 2 Skopolate P.A.M. capsules t.i.d. 2 hours after each meal. To prevent nocturnal pain, 1 or 2 Skopolate D.A. tablets upon retiring.

SKOPOLATE is an extremely active parasympatholytic with marked specificity of action. Side effects are infrequent, making possible more effective ambulatory treatment for more patients.

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Write for complimentary supply.

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0.5 mg./cc.
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EACH TABLET CONTAINS:
scopolamine methyl nitrate 2 mg.

SKOPOLATE
P.A.M.
parasympatholytic
antacid-mucigogue
EACH CAPSULE CONTAINS:
scopolamine methyl nitrate..1 mg.
aluminum hydroxide.....125 mg.
magnesium carbonate...12.5 mg.
sodium dodecyl sulphate.12.5 mg.

SKOPOLATE
D.A.
delayed action
EACH ENTERIC COATED TABLET CONTAINS:
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- His school and work records are likely to be irregular.
- He tries to escape responsibility and the association with authority that it entails.
- As an adult, he usually reacts to stimuli with action rather than thought and is more likely to respond to his inner needs and feelings than to realistic facts and situations.
- He looks to accidents as solutions of his emotional torments because the accidents may bring him love and sympathy—and sometimes money—without exertion or the assumption of responsibility on his part.

ACCIDENT STATISTICS

Every year in the United States, between 9 and 10 million people are accidentally injured—about 300,000 of them permanently disabled—and between 90,000 and 100,000 are killed by accident. For many years, the accident death rate in the United States remained almost constant at about 72 deaths per 100,000 population. When the death rate from one kind of accident declines, it appears to rise at other points. For example, during World War II, when auto driving was restricted, the motor-vehicle accident death rate declined. At the same time, the industrial and military training accident death rates increased, and over-all rates were just about the same during the war years as before. The postwar trend appears to be substantially downward.

We often think of accidents in terms of catastrophes—accidents in which 5 or more lives are lost. However, a careful record reveals that less than 2% of all accidental deaths occur in this way and that only about 10% of the headline catastrophes are spun out of the uncontrollable forces of nature—floods, hurricanes, tornadoes, and the like. The other 90% are the result of some kind of human failure or neglect.

Wherever you turn in the accident picture, the failure in the human factor is obvious. That is why it has often been stated, without serious challenge, that 90% of all accidents are preventable. Over the years, unheralded, unspectacular, foolish accidents outstrip catastrophes fiftyfold, and, as a cause of death, they outrun the combined sum of war deaths, murders, suicides, and legal executions by a ratio of at least 4 to 1.

TRAFFIC ACCIDENTS

Sample studies indicate that the safest drivers are in the 35 to 50 age group. Younger drivers, between 16 and 25, are involved in fatal accidents much more often.

What Makes a Good Driver?

A proper attitude toward driving, mental and physical fitness, knowledge, judgment, skills and habits based on good instruction, and intelligent experience are all important to good driving. Also essential to every driver is the knowledge of the physical and physiologic laws or principles that govern the motion of the car and the driver behind the wheel.

The entire control of a moving

Significant notes on

The Citrus Bioflavonoids

...including their synergistic action with vitamin C

MUCH NUTRITIONAL INTEREST is now being centered around fresh oranges and lemons as an outstanding dietary source of the bioflavonoids, particularly hesperidin.

Focal point of this interest has been the value of the flavonoid materials to the capillary system . . . the role they play in aiding the maintenance of normal capillary integrity, and aiding in the treatment of impaired capillary function.

But continuing research also indicates that the action of the citrus bioflavonoids is not limited to the capillary. There is strong evidence that the bioflavonoids are: (1) synergistic with vitamin C, (2) act in conjunction with a sparing or protective action on vitamin C.

Enumerating other indicated mechanisms, the bioflavonoids are: (1) closely related to the activity of the adrenal cortex, (2) inhibit hyaluronidase, (3) have an antihistamine effect, (4) inhibit epinephrine oxidation, (5) act on enzyme systems involving cellular metabolism.

Fresh lemon juice has been established as an important bioflavonoid source. Both orange and lemon juices contain substantial quantities of the essential amino acids and other valuable factors. In oranges, the citrus bioflavonoids—like pro-vitamin A and protopectin—are found mainly in the cell walls and fibrous tissues of the fruit rather than the juice. In fact, the whole peeled orange contains 10 times as much bioflavonoid as the finely strained juice alone.

The bioflavonoids are another reason for the increasing interest in citrus in its natural form . . . *fresh.*

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automobile depends on the grip which four small areas of tire surface have on the roadway at any given moment. This grip is dependent on many factors, including the condition of the tires, the condition of the brakes, and the kind and condition of the road surface, which is frequently further dependent on weather conditions.

The good driver is aware of the tremendous amount of kinetic energy developed by a moving automobile and the real difficulty of changing the car's motion, specifically, stopping. Modern engineering genius has made it seem deceptively simple to stop an automobile. Only when the car collides with something before stopping is the driver jolted into a realization of what a powerful force he was directing.

Speed too high for driving conditions is associated with fatal accidents more than twice as often as any other observed factor. The relationship of speed to auto accidents has been worked out by A. N. Kerr, a California mechanical engineer, in terms of danger units. At a speed of 25 miles per hour, an automobile has developed 1 danger unit of kinetic energy, or just about the shock limit of a human being, the equivalent of a fall from a second-story window. As speed increases, so do danger units, but danger increases faster than speed. In fact, the danger units are proportional to the square of the speed. Thus, at 35 miles per hour, the car packs 2 danger units; at 50 miles, 4 danger units; at 75 miles, 9 danger units.

We can also imagine a danger zone always projected in front of the moving automobile as if the hood of the car stretched out ahead of it for literally hundreds of feet. This is the distance ahead within which the car can be brought to a complete stop.

The braking distance is the distance the car will travel after the brakes are applied. At 10 miles per hour on a hard-surfaced road with brakes in "good" condition braking distance is 7.5 ft.; at 25 miles, 46.9 ft.; at 60 miles, 270 ft. But the actual stopping time is the sum of the braking distance *plus* the reaction time distance.

Before you even begin to push your foot down on the brake pedal, the foot must respond to a signal from your brain. Under ordinary driving conditions this takes about ¾ of a second. A car traveling 25 miles per hour will have moved ahead about 27 ft. in that split second.

Reaction times of even young people slow down under such conditions as fatigue, drinking of alcoholic beverages, daydreaming, conversation, listening to an auto radio, eyestrain, low visibility, or indecision possibly reflecting emotional strains. The good driver knows all this and guards against most of these hazards.

Unconscious Causes of Auto Mishaps

The good driver always knows what he is doing when he is at the wheel of his car. Under conditions of emotional stress, he may become temporarily a poor and dangerous driver, but most poor drivers and accident-prone individuals do not

New study confirms T. E. D. Elastic Stocking Routine SAVES LIVES

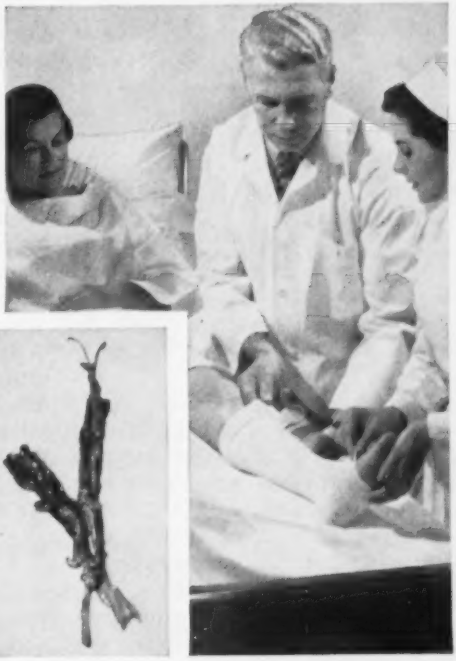
In a study of 9,917 hospital patients, the expected incidence of fatal pulmonary embolism was reduced by 65% at a cost of about 2½¢ per bed per day.

In new studies at Massachusetts Memorial Hospitals, T.E.D. Elastic Stockings were applied routinely to *all* adult patients (except in cases of ischemic vascular disease of the legs in which the use of the stockings is contraindicated). Data on the incidence of pulmonary embolism was carefully compiled and interpreted.

The result was a 65% reduction in the incidence of fatal pulmonary embolism.

Since most fatal emboli originate in the deep calf veins of the legs, usually as a result of the circulatory stasis incident to bed rest, prophylaxis is easily accomplished by the use of T.E.D. elastic stockings. These stockings, developed by Bauer & Black, speed blood flow and minimize clot propagation.

A complete report of the above study appeared in the New England Journal of Medicine. You may obtain a reprint for your files by writing to Bauer & Black Research Laboratories, 309 West Jackson Boulevard, Chicago 6, Illinois.



Specimen of deep calf veins opened to show ante mortem clot filling peroneal and posterior tibial veins. From such clots fatal and non-fatal pulmonary emboli result. *(Specimen photograph courtesy of Joseph R. Stanton, M.D., Massachusetts Memorial Hospitals and Boston University School of Medicine.)*

COST OF T. E. D. STOCKINGS AVERAGES LESS THAN 2½¢ PER BED PER DAY

The quantity price of T.E.D. Elastic Stockings is only $2.45 per pair. When you furnish 3 pairs per active bed per year the cost averages only 2½ cents per day.

T. E. D.®

ELASTIC STOCKINGS

BAUER & BLACK

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really know what they are doing because they are unaware of or will not accept the deep unconscious motivations that basically control their attitudes and conduct.

It must be frankly recognized that in modern American society the automobile is regarded as more than a cheap and convenient means of transportation. The car becomes an extension of the ego and a symbol of family relationships; it substitutes for both love and hate objects. The following are a few examples of mental mechanisms and their relationships to driving and accidents:

Repression—A driver may really hate driving because, for example, he may be trying to repress memory of an auto accident of which he was once a cause, a victim, or a witness.

Identification—A driver may identify the act of driving a car with a family member toward whom he still has unresolved aggressions.

Extroversion—Some people will "drive like mad" in a hopeless attempt to escape inner conflicts.

Fantasy—Daydreams often incorporate fantasies of driving or riding in a long, sleek automobile which will ride easily over all obstacles and opposition. Confusing fantasy with fact, the driver steps on the accelerator and sometimes speeds to his death.

Rationalization—The driver invariably rationalizes the factors that led him into an accident.

Regression—The driver's infantile ego reasserts itself in hogging the road, insisting on the right of way, double parking, speeding—all with an infant's complete disregard for the rights of other people.

Projection—The driver projects the blame for his accidents onto everything and everyone except himself.

Segregation (isolation)—The driver who segregates and isolates his thinking and feeling into logic-tight compartments honestly cannot see that his demoniac conduct behind the wheel is completely at odds with his polite and often mild-mannered conduct in other situations.

Symbolization—The false sense of power that a driver gets when he steps on the gas symbolizes the feeling of importance he would like to have but has failed to achieve in other areas of living.

Substitution (displacement)—The introverted, overobedient child, the henpecked husband, and the Mr. Milquetoast often displace their hidden feelings of resentment by madcap driving and a cavalier disregard for the rights of others.

A Word about Pedestrians

Though the driver is the central figure in all auto accident records, pedestrians are also at fault sometimes. From 9,000 to 12,000 pedestrians of all ages are killed in traffic accidents every year. There is alcohol on the breath of about 1 in every 5 adult pedestrians killed, and 2 of every 3 pedestrians killed are either violating traffic laws or acting in a patently unsafe manner.

OTHER TYPES OF ACCIDENTS

Since over half the fatal accidents that take place at *home* in-

volve people over 65 years of age and one-fifth happen to children under 5, physical frailty or handicap and poor judgment must rank high on the list of causes. Falls are the principal type of fatal home accident. Every home should be repeatedly checked for accident hazards such as poor lighting, unsafe electrical fixtures, stairways without railings, slippery floors, scatter rugs that slip underfoot, and bundles and objects lying on floors and staircases.

The kitchen is the most dangerous room in the house, according to accident injury records. Other danger spots, roughly in order of accident frequency, are outside stairs, inside stairs, living room, porch, bedroom, basement, dining room, bathroom, and hallways. Comparatively few fatal accidents, except for carbon monoxide poisoning, occur in the garage, but the outside yard is just as dangerous as the kitchen.

More thought is probably given to prevention of accidents in *industry* than in any other area. Safety engineering has done a tremendous job in cutting down the risks of even such hazardous employments as mining and quarrying. The human factor, however, remains the big uncontrollable element. More people are killed working on farms than working in factories. Because accidents cost money, industry has gone to great pains to identify accident-prone individuals before they hurt themselves or others. The safe way of doing a job has proved also to be the most efficient way of doing it.

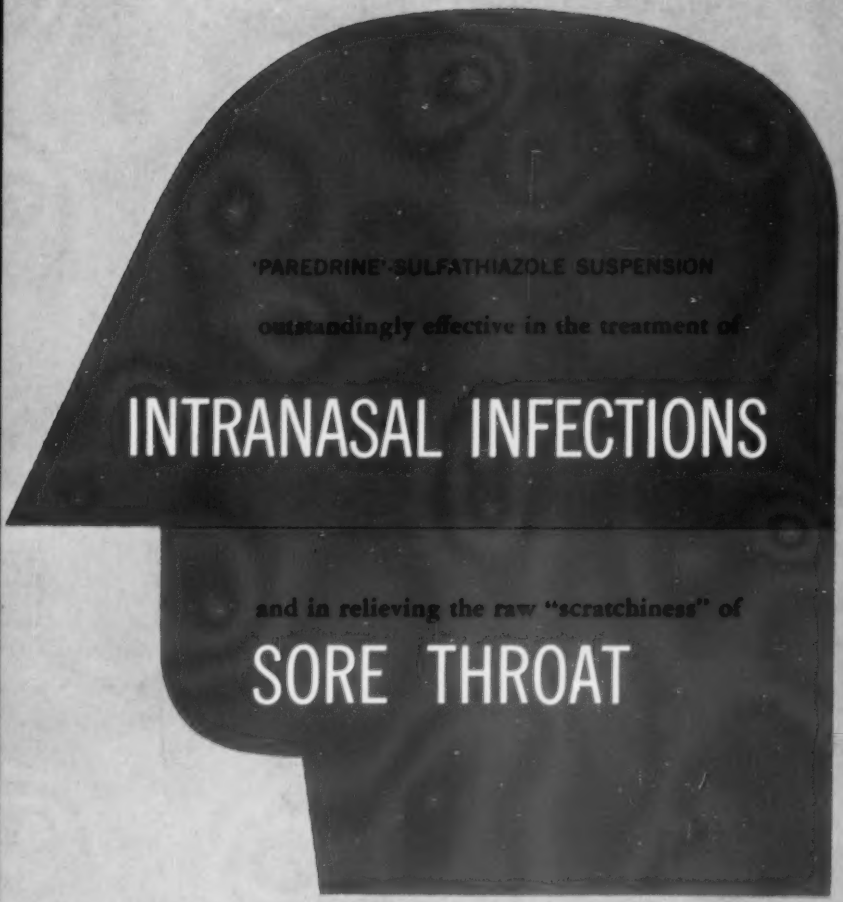
Sports accidents kill hundreds of men and boys over the age of 15 every year. Most of the deaths occur in the so-called milder sports of swimming, fishing, and hunting. Very few deaths result from sports like football, boxing, wrestling, baseball, and auto racing. This is partly the good result of adequate supervision of vigorous sports. Unsupervised recreation is more likely to invite accidents.

Drownings make up the largest category of fatal outdoor accidents. Usually, poor swimmers are the victims, but good swimmers sometimes drown when they attempt to accomplish feats beyond their powers.

ORGANIZING FOR SAFETY

Consistent and organized safety efforts over the years have reduced the toll of accidents. Public safety departments, including traffic policemen and fire inspectors, are constantly at work to reduce accident and fire hazards. Many national organizations cooperate in safety promotion and accident prevention efforts. Among them may be listed the National Safety Council, the American Automobile Association, the American Red Cross, the National Board of Fire Underwriters, the National Committee for Traffic Safety, and the International Association of Chiefs of Police—Safety Division.

In the final analysis, however, it is up to the individual who wants to beat the law of averages of accidents to educate himself to be above average in alertness, safety-mindedness, and self-possessed maturity.



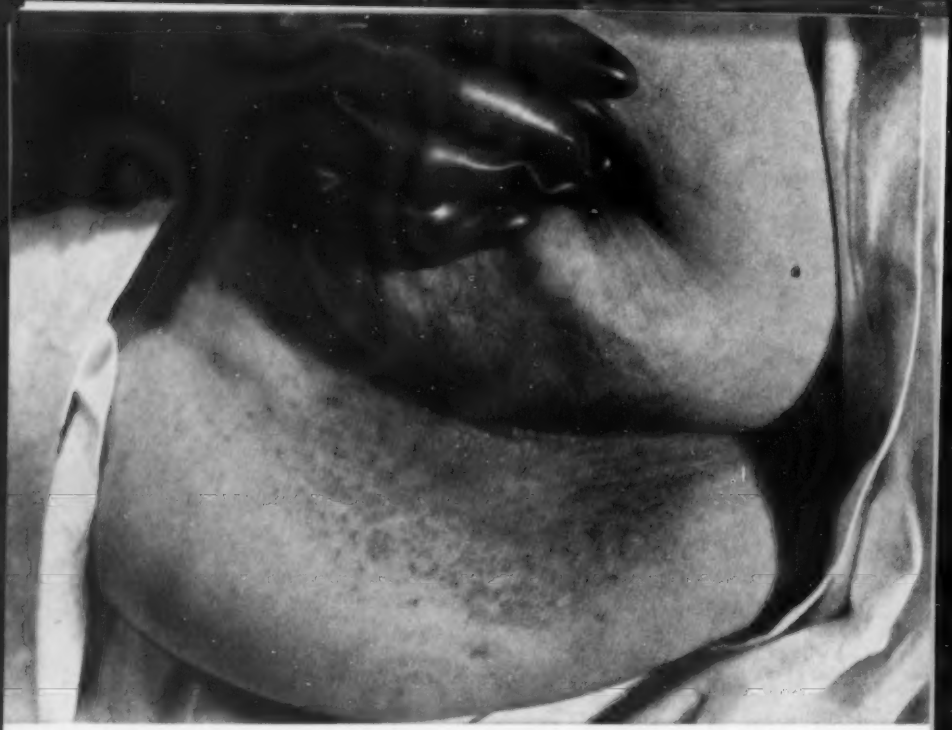
Because it combines microcrystalline sulfathiazole and the outstanding vasoconstrictor, 'Paredrine' Hydrobromide, in a *suspension*, 'Paredrine'-Sulfathiazole is an ideal preparation for the treatment of intranasal infections and sore throat. Upon instillation, the Suspension is swept beneath the turbinates; it neutralizes bacteria in the sinus tract, and coats the pharynx and nasopharynx with a fine frosting of microscopic sulfathiazole crystals. This penetrating film remains for hours in intimate contact with inflamed mucosa, *acting at the site of infection in both nose and throat.*

PAREDRINE*-SULFATHIAZOLE SUSPENSION

vasoconstriction in minutes—bacteriostasis for hours

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off. for hydroxyamphetamine hydrobromide, S.K.F.



INTERTRIGINOUS ECZEMA

Sites and Appearance of Lesions: Favored sites are beneath the breasts (see illustration above), in groin, between fingers and toes, behind the ears and on upper eyelids. Lesions vary in severity; are usually inflammatory; are characterized by vesiculation, infiltration, watery discharge and scales and crusts.

Treatment: Applied once daily, 'Pragmatar' is valuable in subacute and chronic eczematous eruptions, especially those in which a seborrheic factor is involved. ('Pragmatar' is contraindicated in *very acute* eczematous eruptions with *marked* redness, oozing or pustulation, and in eczematous eruptions on dry, chapped skin.)

PRAGMATAR*

highly effective in a wide range of common skin disorders

*T.M. Reg. U.S. Pat. Off.

—A superior tar-sulfur-salicylic acid ointment incorporating a unique oil-in-water emulsion base.

—Pleasant to use, non-staining, not unpleasantly greasy.

—Wide margin of safety enhances Pragmatar's usefulness in patients of all ages.

Smith, Kline & French Laboratories, Philadelphia

Medical Forum

Discussion of articles published in MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Acute Inflammation of the Cecum*

QUESTION: How frequent is acute inflammation of the colon and how may the condition be recognized?

Comment invited from

DONALD C. COLLINS, M.D.
CARL A. KUNATH, M.D.
FRANCIS M. SPENCER, M.D.

► TO THE EDITORS: Dr. Robert O. Emmett has presented a timely and excellent summary of the problems encountered in the proper modern treatment of acute inflammatory lesions of the cecum.

The main problem confronting the surgeon upon opening the peritoneal cavity, with the usual mistaken diagnosis of acute appendicitis, is whether the indurated lesion found in the cecum actually represents a malignant lesion. Commonly, no preoperative bowel lumen sterilization has been made. The operator then has to make the decision whether to [1] continue, assuming that he is dealing with a carcinoma of the cecum, and resect that involved portion of the right colon with its mesentery, employing a closed aseptic technic or [2] close the abdomen, suitably prepare the patient, and reopen the peritoneal cavity at a later date under more ideal sterile conditions.

Usually, an exploratory cecotomy, without adequate sterilization of the bowel lumen, is not a safe procedure. All surgeons are in agreement that, if the cecal lesion can be established as being benign, further definitive radical surgical measures are usually not indicated.

DONALD C. COLLINS, M.D.
Hollywood

► TO THE EDITORS: The involvement of the cecum from inflammatory processes in adjacent organs, usually the appendix or terminal ileum, is a common operative finding, varying from minor degrees of induration to very serious damage affecting the viability of the cecal wall. Usually, the minor involvements are ignored, while the major ones are classified in an ill-defined manner under such confusing terms as typhlitis or plegmon, which have no real meaning. Dr. Emmett has rendered his greatest service in clarifying this terminology and bringing some sense of order to this large group of ileocecal inflammations.

Preoperative diagnosis of these lesions in the acute stage is rarely

*MODERN MEDICINE, Sept. 1, 1954, p. 88.

possible, although the diagnosis of a primary cecitis must certainly be entertained when a patient who has previously had his appendix removed presents himself with pain, tenderness, and rigidity in the right lower quadrant. Such cases are rare, however, and the problem is usually that of recognizing the lesion at the time of surgery.

In my experience the great majority of cases will fall into the classification of either acute secondary cecitis or pericecitis. The diagnosis of acute primary or idiopathic cecitis is therefore made only by exclusion of adjacent or neighboring pathologic processes. I do not remember ever seeing a case which I felt would fulfill these criteria, but I do not doubt that such a condition can and does occur and is probably responsible for some of the acute perforations of the cecum that have been reported in the literature.

CARL A. KUNATH, M.D.
San Angelo, Tex.

► TO THE EDITORS: Although inflammations of the cecum are common, acute primary cecitis is a very uncommon condition. The diagnosis of acute primary cecitis is rarely entertained before surgical exploration now that acute appendicitis is recognized as an entity and if one excludes the multitude of conditions known to produce cecal inflammation. These include amebiasis, regional enteritis, segmental or right-sided nonspecific ulcerative colitis, diverticulitis—especially inflammation of a solitary cecal diverticulum—tuberculosis, blastomycosis, actinomycosis, and infections initiated by foreign bodies. Significant cecitis or pericecitis infrequently accompanies appendicitis except in conjunction with perforation and abscess formation; but pericecitis not uncommonly occurs in the female due to extension from infection in adjacent pelvic viscera.

Acute primary cecitis nearly always presents a clinical picture which cannot be distinguished from acute appendicitis before operation. However, the diagnosis might be suspected if the appendix has previously been removed, particularly if the patient is a male and inflammatory disease of the adjacent pelvic viscera need not be considered. The appearance of a tender palpable mass in the right lower abdominal quadrant earlier in the clinical course of the illness than is usual with appendicitis has been mentioned as a helpful differential point; however, no palpable mass was present in the single case of acute primary cecitis that I encountered in the past ten years. In that case, in which the disease was of the diffuse rather than the circumscribed variety, the patient was operated upon with a presumptive diagnosis of acute appendicitis.

Nonspecific or primary acute cecitis, which is not secondary to or associated with any of the above mentioned conditions, is thought to result from bacterial invasion of the submucosa through superficial mucosal abrasions initiated by hard fecal masses, foreign bodies, or parasitic infestation. The infection may also be of hematogenous origin.

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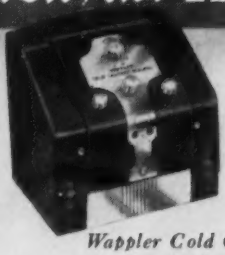

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MacCallum and associates have recently described two fatal cases of "necrotizing hemorrhagic typhlitis" in which the common factor was thought to be a lack of mature leukocytes in the peripheral blood (*Gastroenterology* 22:598, 1952). In one case the primary disease was agranulocytosis and in the other myelogenous leukemia. It is desirable to differentiate cases of this type from the entity of acute primary cecitis and to classify them among those secondary to disease of other organs or systems.

Inflammations of the cecum do not always mimic acute appendicitis. More chronic inflammations, especially regional enterocolitis and the nonspecific granulomas, may involve the ileocecal valve and produce the clinical picture of partial intermittent bowel obstruction. I have recently seen such a case in a 23-year-old male in which the granulomatous lesion of the cecum presented pathologic characteristics indistinguishable from regional enteritis. The distal ileum was not involved. Tubercle bacilli could not be demonstrated in the lesion, nor was there evidence of tuberculosis elsewhere. The patient remains well six months after resection of the lesion, including the distal ileum and right colon.

I have also seen the clinical picture of partial intermittent bowel obstruction with a tender palpable cecal mass and a relatively smooth filling defect on barium enema study produced by an enteric cyst with some associated cecal inflammation.

Roentgen study will rarely be helpful in cecal inflammations since barium enema examination is contraindicated in acute cases; with more chronic diseases, including the granulomatous masses, neoplasm often cannot be excluded with certainty. Instances in which definite Crohn's disease or nonspecific ulcerative colitis involving the cecum can be demonstrated are exceptions.

Careful stool examinations and also proctosigmoidoscopic examination are of special importance in suspected amebic colitis as well as nonspecific right-sided colitis.

FRANCIS M. SPENCER, M.D.
San Angelo, Tex.

Pelvic Congestion and Pain*

QUESTION: How frequently is pelvic vascular disease responsible for low abdominal pain in women?

Comment invited from

RALPH E. LEIGH, M.D.
GEORGE P. HECKEL, M.D.

► TO THE EDITORS: The article by Dr. Howard C. Taylor, Jr., on the disturbance of vascular physiology as a possible etiology for pelvic pain in women presents an interesting subject for speculation.

In the 1920's, the popular suspension operation—now largely in disfavor—undoubtedly gave relief in many cases of pelvic distress. Varicosities of the broad ligament were frequently encountered. Correction of retroversion and ligation of the varices were often relieving. It was generally assumed that correcting malposition was the major

*MODERN MEDICINE, Oct. 1, 1954, p. 123.

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factor in relief. Lending support to this is the accepted fact that vascular engorgement in the genital tract during pregnancy frequently causes pain in the groin and lower abdomen.

The psychic effect of pregnancy as against a psychosomatic response to congestion is a little too deep for me. Nature has endowed the pelvis of a human female with extreme versatility; it is capable of adapting to trauma, congestion, ischemia, and endocrine-stimulated pains and pleasures. The thought that psychosomatic pain and congestion are related does give direction to some therapeutic measures that may be satisfying and morale-building for some of these female patients.

RALPH E. LEIGH, M.D.
Grand Forks, N.D.

► TO THE EDITORS: Pelvic vascular congestion is the second most common cause of lower abdominal pain in women.

In order to test this impression, I reviewed the diagnosis of the last 100 gynecologic patients seen in my office. Pelvic congestion causing pain was present to some degree in 27 of these 100 patients. The primary diagnosis in 12 patients was ovarian pain syndrome—pelvic congestion with one ovary as the focus. In 12 others the chief diagnosis was dysmenorrhea. Since most women have some dysmenorrhea at one time or another, menstruation is the most common cause of pelvic pain, but pelvic congestion appears to be a close second.

Pelvic congestion and dysmenorrhea are entirely different phenomena. The pain of pelvic congestion precedes menstruation, often beginning in midcycle, and is relieved when bleeding begins. Dysmenorrhea, of course, is always associated with menstruation.

Detailed study of symptoms, reaction to treatment, and other criteria in 458 cases have led to the conclusion that pelvic congestion is one manifestation of a protean syndrome including painful breasts, the so-called menopausal symptoms, dermatoses, premenstrual tension, and many other disorders which are most troublesome during the two weeks before menstruation. Insufficiency of estrogen seems to be associated with all of these disorders. This is most apparent when the symptoms occur in older women and are called menopausal symptoms. Pelvic congestion and pain frequently make their appearance in the climacteric.

Temporary relief of painful pelvic congestion at any age can often be achieved by large doses of estrogen, but no hormone is satisfactory for prolonged treatment. Most women with pelvic congestion and related disorders show skin sensitivity to steroids, notably pregnanediol, the biologically inactive excretion product of progesterone. The various symptoms can be produced, as well as aggravated, by giving pregnanediol, and hyposensitization by repeated administration of very small doses has been successful—about 75% improvement of pelvic congestion and pain, 80% improvement of premenstrual tension. Further positive skin tests after

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sensitization have shown pregnanediol to be allergenic in rabbits.

Thus pelvic congestion is apparently a manifestation of allergy to endogenous steroids. Since, as in all allergies, the symptoms are those of disturbed activity of the autonomic nervous system, a neurotic component is usually found in the clinical picture. I believe that painful pelvic congestion is a psychosomatic disorder in about the same degree that any allergy is psychosomatic. In many cases, the neurotic element is more apparent and possibly more severe because the shock organs of the allergy are the sexual organs.

GEORGE P. HECKEL, M.D.
Rochester, N.Y.

The Male Climacteric*

QUESTIONS: Is there a male climacteric? If so, how is it manifested?

Comment invited from

RICHARD L. LANDAU, M.D.
R. P. HOWARD, M.D.
E. PERRY MC CULLAGH, M.D.

► TO THE EDITORS: The possibility that men may experience a climacteric, as indicated by Dr. A. W. Spence, is suggested by the fact that many women develop rather specific symptoms in association with the menopause. However, the fact that a few middle-aged men do become impotent and complain of vasomotor and other somatic symptoms is insufficient grounds for assuming existence of a similar male climacteric, that is, a syndrome ascribable to an abrupt decline in gonadal function. The symptomatology described as being typical of the climacteric could just as well reflect a psychiatric disorder or represent a facet of some other organic ailment.

Although most studies suggest that gonadal function declines slowly as men age, it must be recognized that all such observations have been handicapped by lack of a specific sensitive indicator of the rate of testicular androgen secretion. The diminished sexual function and flushes which follow postpubertal castration lend support to the view that sharp declines in gonadal function would evoke similar symptoms. However, these patients rarely, if ever, develop signs of an androgen loss; since no tests can detect such an occult deficiency with certainty, a diagnostic trial with testosterone is at present the court of last appeal. Carefully controlled therapeutical trials with a potent androgen do not support the view that occult androgen deficiencies produce symptoms with a significant degree of frequency. The suggestion that symptoms may result from a deficiency of the hypothetical "X" hormone of the testis should properly await the discovery of the hormone and its function.

In view of the rarity of probable cases of testicular hormone deficiency in mature men, it does not seem justifiable to assume the existence of a climacteric in men in the same sense as in women.

RICHARD L. LANDAU, M.D.
Chicago

*MODERN MEDICINE, Oct. 1, 1954, p. 129.

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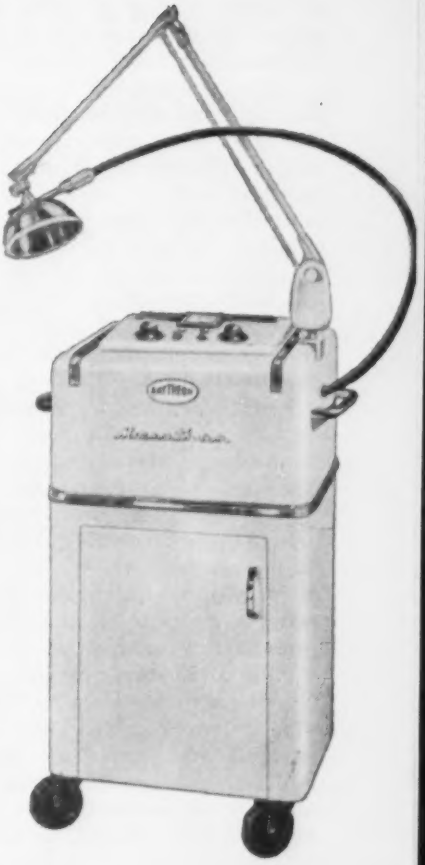

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► TO THE EDITORS: Clinically, there is variable waning of sexual function in elderly males and it is not surprising that laboratory tests give suggestive evidence of gonadal defects in many of these individuals. However, this question still remains: Is defective androgen production directly responsible for symptoms of the menopause or only indirectly through the medium of anxiety? The menopause and anxiety both exert effects through the autonomic nervous system and can often be differentiated only by the effects of therapy.

Many elderly males accept their waning powers as inevitable, while some become alarmed at slight deficiencies. This is exemplified by a 77-year-old man who presented himself with uncontrolled auricular fibrillation but whose only complaint was that for the first time he had been unable to complete his twice weekly intercourse.

After using androgens sporadically for ten years in elderly males who feel weak and emotional and sweat, I find that I am generally disappointed in the results. I reluctantly conclude that therapy to ease tensions and to reorient the patient toward graceful elderly living gives superior results.

The elaboration of recent discoveries concerning the relation of estrogens to atheromatosis may possibly revolutionize our ideas of the hormonal aspects of aging. This work, still in preliminary stages, is being done by Katz, Barr, and others. It has been shown that the simultaneous administration of androgens prevents the protective effect of estrogens against the development of atheroma. It is to be hoped that the feminizing effect of estrogens can be separated from the athero-protective effect through derivatives. The ultimate place of this work in practical therapy is uncertain but it seems likely that it will eventually lead to a diminished use of androgens in both men and women.

R. P. HOWARD, M.D.
Pocatello, Ida.

► TO THE EDITORS: There seems to be no doubt that castration in the adult male produces symptoms which simulate very closely those seen at the female climacteric. In eunuchoidism, however, even in relatively severe states, outspoken nervous manifestations or hot flashes are seldom complained of. Energy, however, is usually poor, muscular development is not that of a normal adult male, and some degree of nervous instability may be noted.

In my opinion, the balance of evidence is in favor of the fact that the average man experiences no episode comparable to the climacteric in the female. In this sense, the term "male climacteric" is a misnomer, and it cannot be said that testicular failure to a point of producing symptoms occurs regularly in men. Occasionally, when testicular failure is present, evidence is considerable that the condition is pathologic and not physiologic.

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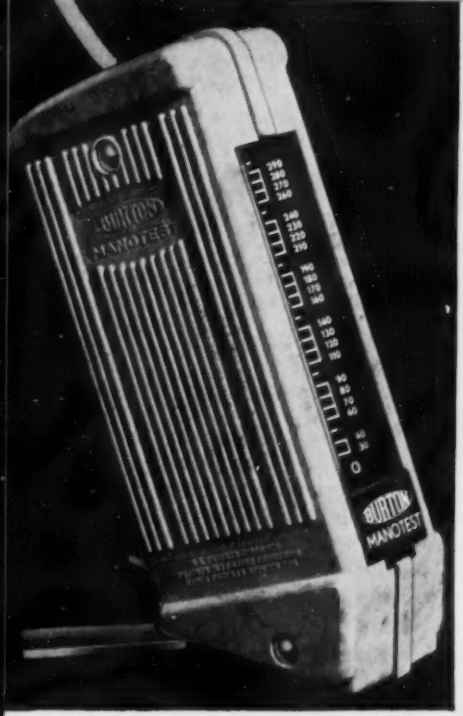

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en changes in the endometrium indicate estrogen suppression and typical changes occur in the vaginal smear. Urinary gonadotropins regularly rise to abnormal heights at the physiologic climacteric in women just as they do after castration. In men there is no point at which gametogenesis ceases. Testicular biopsies and autopsy material show clearly that spermatogenesis goes on at an active rate well past the age at which the male climacteric is suspected.

It is true that activity of the spermatocytes tends to drop in men past middle age but testicular deficiency is not associated with a sudden decrease in androgen production. Urinary 17-ketosteroids, if used as an index for androgen production, show a very gradual decline from early middle age to old age. It is difficult to believe that testicular failure could occur to a degree which would cause symptoms and still not be associated with increased urinary gonadotropin titers. Our work and the work of others seem to justify the opinion that men do not ordinarily have a rise in urinary gonadotropins after middle life but continue to have the same levels as in earlier years.

It has been claimed that a rise in the urinary gonadotropin titer in men is part of the climacteric syndrome. It is true that when gametogenesis fails sufficiently, gonadotropin titers do rise, but in cases of sterility with no androgen defect, even extremely high levels of urinary gonadotropins are not associated with symptoms.

It is commonly and I believe erroneously assumed that because androgen administration causes a sense of well-being, strength, or some degree of nervous stability, this constitutes proof that it was previously lacking. Symptomatic benefit may be desirable and harmless but it is difficult, if not impossible on clinical grounds alone, to say that symptomatic changes depend upon a previously existing deficiency in androgen.

E. PERRY MC CULLAGH, M.D.
Cleveland

Liver Function Tests in Viral Hepatitis*

QUESTION: What liver function tests are most useful for diagnosis and for guidance in treatment of viral hepatitis?

Comment invited from
DAVID CAYER, M.D.
RICHARD B. CAPPS, M.D.

► TO THE EDITORS: In our laboratory we do not use the colloidal red test or gamma globulin, but otherwise employ all the other tests utilized by Dr. Joe R. Kimmel and associates in the evaluation of patients with viral hepatitis. The total serum bilirubin determination is of extreme importance during the initial stage of illness. When jaundice has been severe, the rate of disappearance may lag behind clinical improvement, but ordinarily it is a good measure of persistent activity or sequelae.

I would place the cephalin flocculation test second in importance. In our laboratory it has been quite

*MODERN MEDICINE, Sept. 15, 1954, p. 91.

sensitive and invariably strongly positive during the initial stages.

Once clinical and laboratory evidence of icterus subsides, I regard the cephalin flocculation, the thymol turbidity, and the bromsulphalein retention as the most valuable tests in determining activity.

A positive cephalin flocculation as a measure of abnormal circulating globulin may occasionally persist beyond any other sign of activity. It is my feeling that this test is more likely to persist after active hepatitis has subsided than it is to be negative in the presence of active or residual hepatitis.

Persistent bromsulphalein retention can be somewhat misleading, since hepatitis patients may continue to show some impaired ability to remove the dye. I feel that this is due to the preceding overload of circulating pigment from moderate or severe jaundice over a long period of time, rather than active disease.

I cannot account for the occasional increase in the thymol during convalescence, although it is accepted by some as an indication of subsequent scarring.

DAVID CAYER, M.D.
Winston-Salem, N.C.

► TO THE EDITORS: Liver function tests vary widely in the type of information that they provide and in their suitability in specific situations. Thus, the choice of tests in viral hepatitis depends upon the stage of the disease and the purpose for which they are being used. This, we believe, is the most neglected aspect of the problem and the source of much confusion. Our specific recommendations are as follows:

• For early diagnosis before the appearance of jaundice, the urine bilirubin, the one-minute serum bilirubin, the flocculation tests—particularly the thymol turbidity—and the serum alkaline phosphatase are the most helpful. On the other hand, only the last two tests are of value in distinguishing between parenchymal and obstructive jaundice.

• Once the diagnosis has been established, the course of the icteric stage of the disease can be adequately observed with serial determinations of the total serum bilirubin. For this purpose, the one-minute bilirubin fraction has no significance. As a prognostic aid, determination of the prothrombin time during the initial period of rising serum bilirubin is also advisable. Coma rarely occurs unless this value falls below 50% of normal by the undiluted serum method.

• During convalescence when the serum bilirubin has fallen to below 2 mg. per cent, adequate evaluation of the degree of recovery requires other tests. The bromsulphalein test is possibly the most important. We feel, however, that an additional procedure should be used and we prefer the serum alkaline phosphatase although the thymol turbidity is quite adequate. The one-minute serum bilirubin may also be helpful.

The significance and value of liver function tests is greatly increased by using more than one test and by making serial determinations. When an important decision such as the

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RICHARD B. CAPPS, M.D.
Chicago

Operation for Undescended Testes*

QUESTION: What is the best operation for an undescended testicle?

Comment invited from

M. LEOPOLD BRODNY, M.D.
CHARLES E. REA, M.D.
CLYDE L. DEMING, M.D.
WILLIAM H. SNYDER, JR., M.D.

► TO THE EDITORS: The purpose of orchiopexy is to obtain a functioning testicle within the scrotum, but the fact that many technics are advocated indicates that no single method is superior for its accomplishment. In the past, the main criterion of successful surgery was the anatomic result, but today the surgeon is also interested in testicular physiology and especially in the inauguration and maintenance of adequate spermatogenesis after puberty.

The functioning of an organ is only as good as its blood supply and this is especially true of the testicle. Any technic minimizing surgical trauma to the internal spermatic vessels and still allowing proper placement of the testes in the scrotum is in keeping with this axiom and worthy of consideration. The method described by Dr. Enrico Beltrame shortens the distance necessary to move the undescended testicle to the scrotum and theoretically at least requires less dissection of the cord to obtain the additional length.

I am reporting shortly a new method for the visualization of arterial and venous systems of the cord and male gonad. It is possible that this procedure will be useful in evaluating the degree of preservation of the blood supply after orchiopexy.

Dr. Beltrame has been doing this operation for some time but unfortunately he failed to present statistics of his success in preserving spermatogenesis. The proper evaluation of this function after orchiopexy, especially of the unilateral type, demands not only a semen analysis but also testicular biopsy and pathologic examination of the spermatic function in the seminiferous tubules.

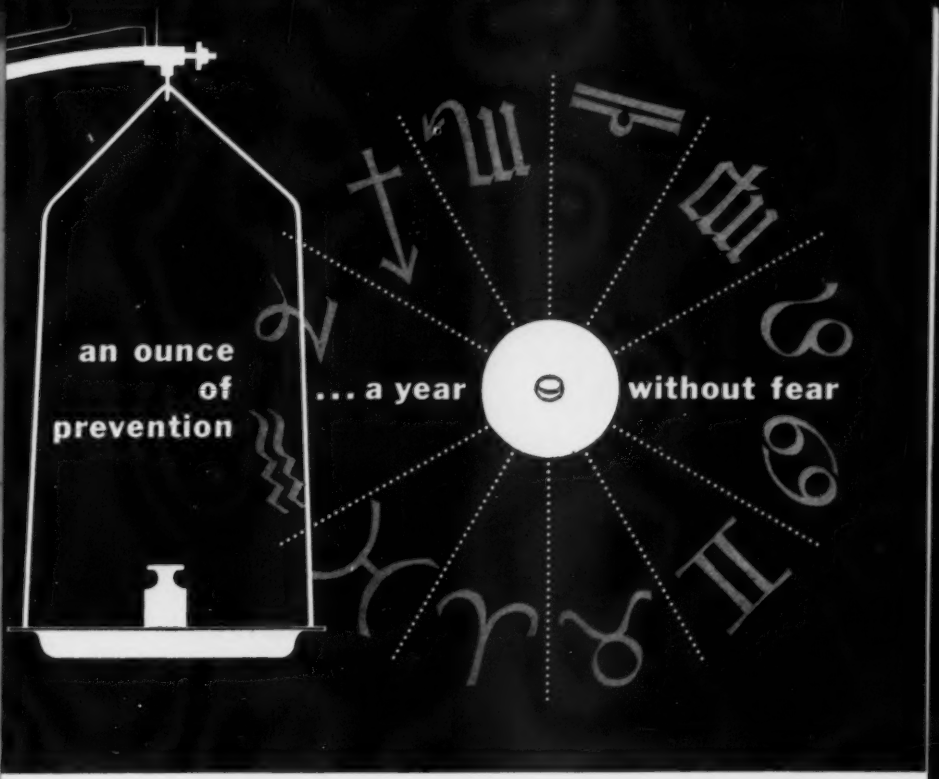
M. LEOPOLD BRODNY, M.D.
Boston

► TO THE EDITORS: In this country, most surgeons use some modification of the Keetley-Torek operation for undescended testes.

I am most familiar with Wangensteen's modification of the Keetley-Torek operation in which sutures are placed in the tunica vaginalis, brought down through the tunica vaginalis communis of the scrotum, and fastened to the fascia lata of the thigh. This modification is more physiologic in that the testis is allowed to remain in the scrotum and not placed in the thigh as in the original Torek operation.

To get length of the cord, the epigastric vessels may be cut; this

*MODERN MEDICINE, Sept. 15, 1954, p. 133.



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1. Russek, H. I., et al.: J.A.M.A. *153*:207 (Sept. 19) 1953. 2. Winsor, T., and Humphreys, P.: Angiology *3*:1 (Feb.) 1952. 3. Plotz, M.: New York State J. Med. *52*:2012 (Aug. 15) 1952.

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I have had no experience with making the perineal passage behind the inferior ramus of the ischium to bring the abdominally contained testes into the scrotum.

Dr. Beltrame reports that normal size as well as spermatogenesis may be provided in all varieties of testicular nondescent by orchiopexy. I think that this statement may be questioned. In our experience, these testes never quite attain the size of a normally descended testes. Those that do are probably cases of pseudocryptorchidism and not true undescended testes.

Our experience with fertility in bilateral undescended testes has been discouraging.

CHARLES E. REA, M.D.
St. Paul

► TO THE EDITORS: The undescended testis should be transplanted between the fourth and seventh years of life to its normal position. If the organ is intraabdominal and is neither ectopic nor associated with a large hydrocele, I give 250 units of Antuitrin "S" intramuscularly three times a week for four weeks, for a total of 3,000 units. More than 3,000 units is unnecessary and the value of a smaller amount is questionable. Hormonal therapy is of little or no value in adults and in boys with ectopic testes. Hormonal therapy used as an adjunct to surgery is of distinct importance.

A surgical procedure used for many years successfully is one which carefully transplants the testes into the scrotum without injury to the testes or their vascular supply by means of an inguinal incision. A blunt digital dissection is made into the scrotum. If the cord is short, the surgeon can obtain sufficient length to allow the testis to be placed in midscrotum either by dissecting the adhesions between the artery and vein or by transplanting the cord below the hypogastric artery.

The testicle is held in position by a No. 00 chromic suture passed through the gubernaculum and the base of the scrotum attached to a small elastic band strapped to the thigh. The suture usually breaks at the end of eight to twelve days, at which time the testis becomes adherent to its new environment and will not retract.

Bilateral orchiopexies are done without hesitation, and hernias are corrected at the same time. Usually general anesthesia is used. Any local infiltration of the inguinal region with novocain or allied solutions has a tendency to make the operative procedure more difficult.

CLYDE L. DEMING, M.D.
New Haven, Conn.

► TO THE EDITORS: The best operation for undescended testes is the one which brings and maintains the testicle in the bottom of the scrotum and allows for normal development of the spermatozoa and androgens. There is little evidence that any operation achieves all of these desirable results. However, anatomically, the evidence in cases which

(Continued on page 198)

If you want the
latest information
on an innovation
in management of
urinary tract
infections . . .
read the
next two pages...

See Next Page

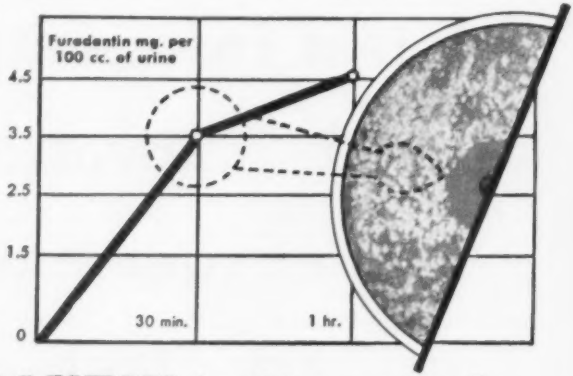
FURADANTIN® works this fast...

brand of nitrofurantoin, Eaton

Furadantin has a remarkable affinity for the urinary tract. Effective antibacterial urinary concentrations are achieved within 30 minutes, as shown by zone of inhibition on agar-cup plate.

In 30 minutes: antibacterial concentrations in the urine.
In 24 hours: a turbid urine is frequently clear.
In 3 to 5 days: complete clearing of pus cells from the urine.
In 7 days: sterilization of the urine in the majority of cases.

Antibacterial urinary concentrations within 30 minutes following 100 mg. by mouth.



FURADANTIN has this exceptionally wide antibacterial range

Furadantin is effective against a great variety of gram-positive and gram-negative urinary tract invaders, including bacteria notorious for their high resistance.

Furadantin is not related to the sulfonamides, penicillin or the 'mycins. It is a totally different chemotherapeutic molecule which is used only in urinary tract infections.

- Escherichia coli
- Micrococcus (Staph.) pyogenes var. aureus
- Micrococcus (Staph.) pyogenes var. albus
- Streptococcus pyogenes
- Aerobacter aerogenes
- Proteus vulgaris
- Pseudomonas aeruginosa
- Alcaligenes faecalis
- Corynebacterium sp.
- Klebsiella pneumoniae
- Paracolobactrum sp.
- Streptococcus faecalis

FURADANTIN produces excellent clinical results in acute and chronic cases

In 33 patients with acute or chronic pyelonephritis or cystitis, Furadantin produced 17 complete cures and 14 symptomatic or bacteriologic cures. Only 2 failures were observed.[1]

Furadantin was given to 107 patients with acute or chronic urinary tract infections. Over three-fourths of the patients had chronic infections. Of the patients with acute infections, 95.7% were benefited by Furadantin. The clinical and laboratory cure rate was 73.9%. Eighty-two per cent of the patients with chronic urinary tract infections, and those with organic or obstructive lesions, were benefited. The clinical and laboratory cure rate was 20.8%.[2]

Of 100 cases of acute and chronic urinary tract infections treated with Furadantin, laboratory and clinical cure was obtained in 68 and clinical cure in 28. There were only 4 failures.[3]

1. Norfleet, C. M., et al.: Tr. Southeastern Sect. Am. Urol. A. 1952, p. 26. 2. Hasen, H. B., and Moore, T. D.: J.A.M.A. 155: 1470, 1954. 3. Friedgood, C. E., and Ripstein, C. B.: Internat. Record Med. 167: 218, 1954.

FURADANTIN is well tolerated...

More than 250,000 urinary tract infections have been treated with Furadantin. With Furadantin toxicity is low.[4,5] There is no proctitis, anal pruritus, crystalluria, moniliasis or staphylococcic enteritis. "Dizziness, headache, diarrhea, itching, paresthesia, often seen as side reactions with other drugs, have not been observed with patients taking Furadantin."[6]

4. Mintzer, S., et al.: Antibiotics and Chemotherapy 3: 151, 1953. 5. Ford, R. V., and Maluf, N. S.: J. Urol. 72: 959, 1954. 6. Carroll, G., and Brennan, R. V.: J. Urol. 71: 650, 1954.

FURADANTIN dosage is simple

TABLETS: The average adult takes four 100 mg. tablets daily. One tablet is taken *with* each meal, and one on retiring, with food or milk.

FURADANTIN ORAL SUSPENSION (5 mg. per cc.) For adults, the usual dose is 4 teaspoonfuls q.i.d. For pediatric patients, the average dose is 7 mg./Kg. (3.1 mg./lb.) of body weight per 24 hours, in 4 individual doses. The therapeutic dose range is 5 to 10 mg./Kg. per 24 hours. Under 15 lbs. of weight, the dose should be determined on the basis of 7 mg./Kg. per 24 hours.

SUPPLY:

Furadantin tablets N.N.R. 50 mg., bottles of 50 and 250. 100 mg., bottles of 25 and 250. *Furadantin Oral Suspension* N.N.R. bottle of 4 fl.oz. (118 cc.).

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we have analyzed recently supports the Torek operation as the most desirable.

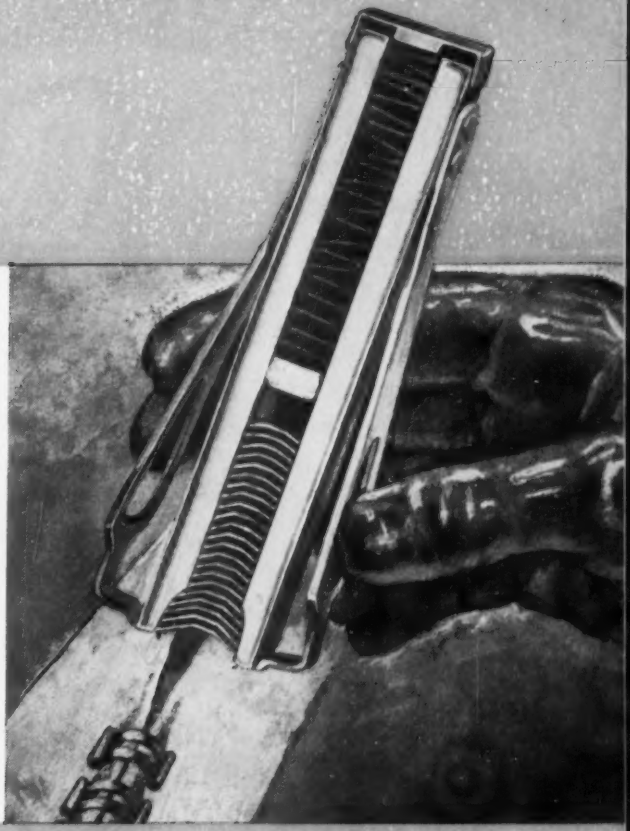
This must be qualified:

- If the testicle has a long enough cord so that it can be placed in the bottom of the scrotum and does not retract at all, we feel that nothing further need be done.
- If, on the other hand, there is moderate retraction, we feel that fixation of the testicle to the thigh by a rubber band for about ten days is preferable.
- If there is moderate traction on the testicle we feel that the Torek procedure is indicated—direct attachment of the testicle in the scrotum to the thigh with separation three months later.
- If the testicle cannot be brought into the scrotum, it is attached to the pubic spine. Two years later this is brought into the scrotum and attached to the thigh in a 2-stage procedure. In this group, which comprised approximately 2% of our cases, Dr. Beltrame's ingenious procedure might well be instituted.

Although anatomic results are good in about 95% of the cases operated upon, thorough studies by McCollum and Hansen indicate that only a very small percentage develop adequate spermatogenic function. Possible improvement of this aspect of the subject may be effected by operation before the age of five years.

WILLIAM H. SNYDER, JR., M.D.
Los Angeles

"They take this all very seriously."



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For many a spry oldster, the only change noticeable with advancing age is that each succeeding birthday cake has one more candle on it. To help such persons grow old gracefully, productively, and happily, a supplementary supply of vitamins and minerals may be desirable. GEVRAL provides 14 vitamins and 12 minerals in one convenient capsule for geriatric use.

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EACH GEVRAL *CAPSULE CONTAINS:*
Vitamin A (acetate), 5000 U.S.P. Units (125% MDR); Vitamin D (viosterol), 500 U.S.P. Units (125% MDR); Vitamin B_{12}, 1 microgram; Purified Intrinsic Factor Concentrate, 0.5 mg.; Thiamine Hydrochloride (B_1), 5 mg. (500% MDR); Riboflavin (B_2), 5 mg. (250% MDR); Niacinamide, 15 mg.; Folic Acid, 1 mg.; Pyridoxine Hydrochloride (B_6), 0.5 mg.; Calcium Pantothenate, 5 mg.; Choline Dihydrogen Citrate, 100 mg.; Inositol, 50 mg.; Ascorbic Acid (C), 50 mg. (166% MDR); Vitamin E (tocopheryl acetates), 10 I. U.; Rutin, 25 mg.; Iron ($FeSO_4$), 10 mg. (100% MDR); Iodine (KI), 0.5 mg. (500% MDR); Calcium ($CaHPO_4$), 145 mg. (19% MDR); Phosphorus ($CaHPO_4$), 110 mg. (14.6% MDR); Boron ($Na_2B_4O_7 \cdot 10H_2O$), 0.1 mg.; Copper (CuO), 1 mg.; Fluorine (CaF_2), 0.1 mg.; Manganese (MnO_2), 1 mg.; Magnesium (MgO), 1 mg.; Potassium (K_2SO_4), 5 mg.; Zinc (ZnO), 0.5 mg. MDR—minimum daily requirement for adults.

Other Lederle geriatric products include: GEVRABON*, vitamin-mineral supplement liquid with a wine flavor; GEVRAL* Protein, vitamin-mineral-protein supplement powder; and GEVRINE*, vitamin-mineral-hormone capsule.

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Lederle LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY Pearl River, New York

Diagnostix

Here are diagnostic challenges presented as they confront the consultant from the first clue to the pathologic report. Diagnosis from the Clue requires unusual acumen and luck; from Part II, perspicacity; from Part III, discernment.

Case MM-281

THE CLUE

ATTENDING M.D: I would like you to see a patient whom we are transferring to the surgical department for exploratory thoracotomy.

VISITING M.D: A coin lesion of the lung discovered by mobile roentgenogram surveys?

ATTENDING M.D: No, this patient's lung disease was symptomatic, and chest films showed an infiltrative and nodular lesion of the right lower lobe.

VISITING M.D: Have you established the diagnosis?

ATTENDING M.D: No, but since we cannot exclude bronchogenic carcinoma, surgery seems required.

VISITING M.D: I agree, if you're sure a definite diagnosis cannot be made without exploration. What are the symptoms?

ATTENDING M.D: The patient is a 59-year-old man who has productive cough, aching distress in the right chest, and low fever. Penicillin and Aureomycin were administered one month ago without benefit. Because symptoms persisted, a chest roentgenogram was made and the patient was referred here.

VISITING M.D: Was onset sudden?

ATTENDING M.D: Apparently over a period of a month or two. However, the patient has had chronic rhinitis, sinusitis, and a hacking, nonproductive cough for many years.

VISITING M.D: The production of sputum was something new for him. Is that right?

ATTENDING M.D: Yes.

PART II

VISITING M.D: Any hemoptysis, shortness of breath, weight loss, or other symptoms?

ATTENDING M.D: Apart from some malaise and fatigability for the last month, no other symptoms were mentioned. The patient has had chronic upper respiratory symptoms at times—seasonal and suggestive of allergy—but system review and past history were oth-

erwise unimportant. Shall I proceed to the physical findings?

VISITING M.D: Not quite yet. Pulmonary disorders such as this—perhaps more than with any other area of disease—require complete review of the patient's past life. Present and previous occupation, geographic residence, and smoking and other personal habits of the patient should be determined.

ATTENDING M.D: I've discussed these matters with the patient. He's a milkman and has been in the dairy business for forty years, has always lived within the state, and neither smokes nor drinks. He does use home remedies, such as vitamins, nose drops, and, rather frequently, laxatives.

VISITING M.D: Could you obtain previous chest films for comparison?

ATTENDING M.D: No, unfortunately, none is available. Our films show a nodular lesion approximately 3 by 4 cm., situated rather close to the hilum in a posterior segment of the right lower lobe.

VISITING M.D: *(Looking at films)* Hilar adenopathy seems to be lacking, and the remaining lung fields are clear. There is no cavitation or visible calcium in the lesion. However, some infiltrative changes extend peripherally from the lesion, and there is probably some atelectasis distally, but this is not prominent. The heart appears normal. What were your physical findings?

ATTENDING M.D: A well-developed and well-nourished white man of medium build with a rather persistent cough productive of small amounts of clear white sputum. Findings for the head and neck were negative except for a postnasal discharge and poor transillumination of the maxillary sinuses. Thoracic excursions were well performed. Resonance over the right lower chest posteriorly was slightly decreased, and breath sounds in this area were bronchovesicular with persistent medium moist rales. The heart, blood pressure, and other points of the examination were normal.

VISITING M.D: No clubbing or cyanosis?

ATTENDING M.D: No, and the hemoglobin, white count, and urine were also normal.

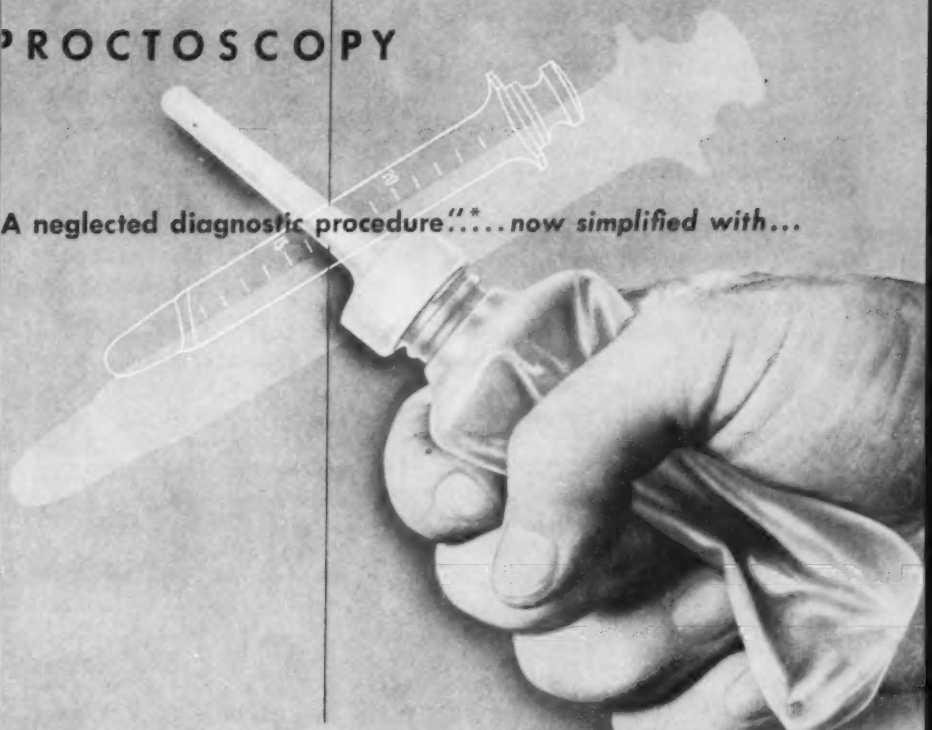
PART III

VISITING M.D: What other tests and procedures were performed?

ATTENDING M.D: Sputum smear and culture revealed normal flora. Tuberculin skin reaction was 2+, but 3 twenty-four-hour sputum concentrates for acid-fast bacilli

"Must I repeat everything to you?"

PROCTOSCOPY



A neglected diagnostic procedure"*.... now simplified with...

THE FLEET ENEMA

DISPOSABLE UNIT

*"*Probably no other office procedure except blood pressure determination in the adult gives as high a percentage of positive diagnostic information.*"
— *Jl. La. St. Med. Soc., 106:356, Sept. '54.*

It is now a simple matter to prepare patients for proctoscopic or sigmoidoscopic examination during an office visit. The Fleet Enema *Disposable* Unit is superior in cleansing effect to a tap water or saline enema of one or two pints and less irritating than a soap suds enema. Thorough left colon catharsis, with minimal discomfort to the patient, is usually a matter of only four or five minutes.

Each 4½ fl. oz. disposable "squeeze bottle" contains, per 100 cc., 16 gm. sodium biphosphate and 6 gm. sodium phosphate . . . an enema solution of Phospho-Soda (Fleet) . . . gentle, prompt, thorough.

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were negative by smear. The cultures are not reported yet.

VISITING M.D: Of course, almost anything in the lung can be tuberculosis, but I don't think we would be justified in waiting six weeks for the culture. What were the results of bronchoscopic examination?

ATTENDING M.D: Nothing abnormal was seen. Bronchial secretions and washings were examined for tumor cells, but the results were inconclusive. A bronchogram revealed a normal bronchial tree with the exception of incomplete filling of the bronchi to the right lower lobe. At that point, we decided that thoracotomy was necessary.

VISITING M.D: Has he been febrile in the hospital?

ATTENDING M.D: Nothing over 99.4° orally. Incidentally, large doses of penicillin and Chloromycetin have been administered empirically for the last week while the diagnostic investigation was being made.

VISITING M.D: Have the lung films revealed any change in the lesion?

ATTENDING M.D: No change. Do you agree with the decision to operate?

VISITING M.D: Yes. Carcinoma cannot be excluded in spite of a thorough investigation. However, there is one point in the history which is intriguing, and I'd like to talk to the patient. *(They enter the patient's room.)*

VISITING M.D: *(Later, in the corridor)* Have a fresh sputum sample stained with Sudan and osmic acid.

"Why is it people never come to the doctor until it's too late?"

PART IV

ATTENDING M.D: When he told me that he used nose drops, I never imagined that he had used them every night for twenty years. What do we do if the sputum stains are positive for lipid?

VISITING M.D: We operate, anyway. Lipoid pneumonia is no guarantee against carcinoma, and, furthermore, paraffinomas can cause hemorrhage or abscess formation and should be removed. The important thing is to have a frozen section of the lesion studied for fat, since less extensive surgery would be necessary than for carcinoma.

ATTENDING M.D: *(Later)* You were right again. The patient had extensive lipoid pneumonia of the right lower lobe with no tumor. A lobectomy was performed.

MEDICAL NOTES ... *from* ABROAD

AUSTRIA

Preoperative Preparation

Chlorpromazine and phenergan may be used to manage elderly, poor-risk patients before operation.

Drs. Wolfgang Caithaml and Herbert Moser of the University of Graz find that equal amounts of chlorpromazine and phenergan are especially useful when open reduction of fractures is done in aged persons. The amount of analgesia and sedation obtained makes the patient comfortable while under local anesthesia and also allows reduction of opiate doses during the period immediately after the operation.

Wien. klin. Wchnschr. (Vienna) 66:704-705, 1954.

Diagnosis of Brain Injury

Electroencephalographic alterations and cerebrospinal fluid and careful neurologic examination aid differentiation of cerebral contusion and concussion.

Drs. H. Lechner and F. L. Jenkner of the University of Graz observe that cerebral concussion does not produce focal changes. Blood is not found in the cerebrospinal fluid; neurologic irregularities disappear in less than four days. With contusion, however, the electroencephalogram reveals focal changes, the cerebrospinal fluid always contains red cells, and neurologic abnormalities are prolonged.

Duration of unconsciousness and cerebrospinal fluid pressure are of no value in the differential diagnosis.

Confinia neurol. (Basel) 14:219-232, 1954.

Chronic Myelogenous Leukemia

Myleran is apparently less toxic and more effective in the treatment of chronic myelogenous leukemia than other cystostatic drugs. Patients whose white blood and bone marrow smears contain more mature elements obtain the greatest relief

Drs. R. Klima, J. Beyreder, and E. Herzog of the Queen Elizabeth Hospitals, Vienna, recommend early institution of therapy. Effects of the drug do not appear until about two weeks after treatment is started. The decrease in the leukocyte count is frequently accompanied by an increase in the number of red cells. Other blood elements are not affected; the platelet counts are usually unchanged or only slightly lowered. No hemorrhagic accidents

(Continued on page 212)

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N.B. Doctor, you'll like Sanka Coffee, too. It is a choice blend with a flavor and aroma that is completely satisfying.

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Folic Acid	2 mg.
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Thiamine Mononitrate	6 mg.
Riboflavin	6 mg.
Nicotinamide	30 mg.
Pyridoxine Hydrochloride	3 mg.
Pantothenic Acid	6 mg.

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Dosage supply of new 2-a-day IBEROL now lasts 50% longer than previous 3-a-day treatment . . . and the saving has been passed on to the patient. Abbott

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were noted. Regression of splenomegaly parallels the drop in the white blood count.

No untoward effects have been observed in patients treated for as long as ten months.

Wien. klin. Wchnschr. (Vienna) 66:682-685, 1954.

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Side Effects of *Rauwolfia*

Treatment of hypertension with *Rauwolfia serpentina* preparations is sometimes accompanied by nasal congestion. Drs. F. Krejci and B. Watschinger of the University of Vienna report that 10 of 200 patients had difficulty in breathing, especially during the night. On inspection, the nasal mucosa appeared edematous and bluish in color.

Congestion gradually disappears when treatment is discontinued. Antihistamine reduces severity of the symptoms, allowing continuation of therapy.

Wien. klin. Wchnschr. (Vienna) 66:707-708, 1954.

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SWITZERLAND

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Effects of Tuberculosis

An electrocardiographic examination often reveals myocardial changes due to pulmonary tuberculosis. Anoxemia, hypoproteinemia, vitamin deficiency, and increased load on the right heart are believed to be the principal factors involved.

Drs. J. Fabre and J. Barazzone of the University of Geneva observed that the extent of the lesions ranged from slight infiltrations to massive bilateral involvement. Signs of circulatory failure were rare but tachycardia was observed in 50% of 500 patients; 79 patients had roentgenographic evidence of changes in the heart shadow.

Electrocardiographic changes consisted mainly of right axis deviation, flattened or negative T waves in leads I and II, low QRS voltage, and prolonged Q-T deflection. The incidence and severity of electrocardiographic alterations increase with the age of the patient and the duration and extent of the tuberculous process.

Schweiz. Ztschr. Tuberk. (Basel) 11:129-146, 1954.

•

Drug Leukopenia

Agranulocytosis occurring after the administration of drugs is apparently caused by a circulating agglutinin. Dr. S. Moeschlin of the University of Zürich gives repeated transfusions of agranulocytic blood to nonsensitized animals and produces a bone marrow condition suggestive of chronic agranulocytosis. Apparently, therefore, agranulocytosis is related to such conditions as hemolytic anemia and essential thrombocytopenia.

Deutsche med. Wchnschr. (Stuttgart) 79: 1430-1431, 1954.

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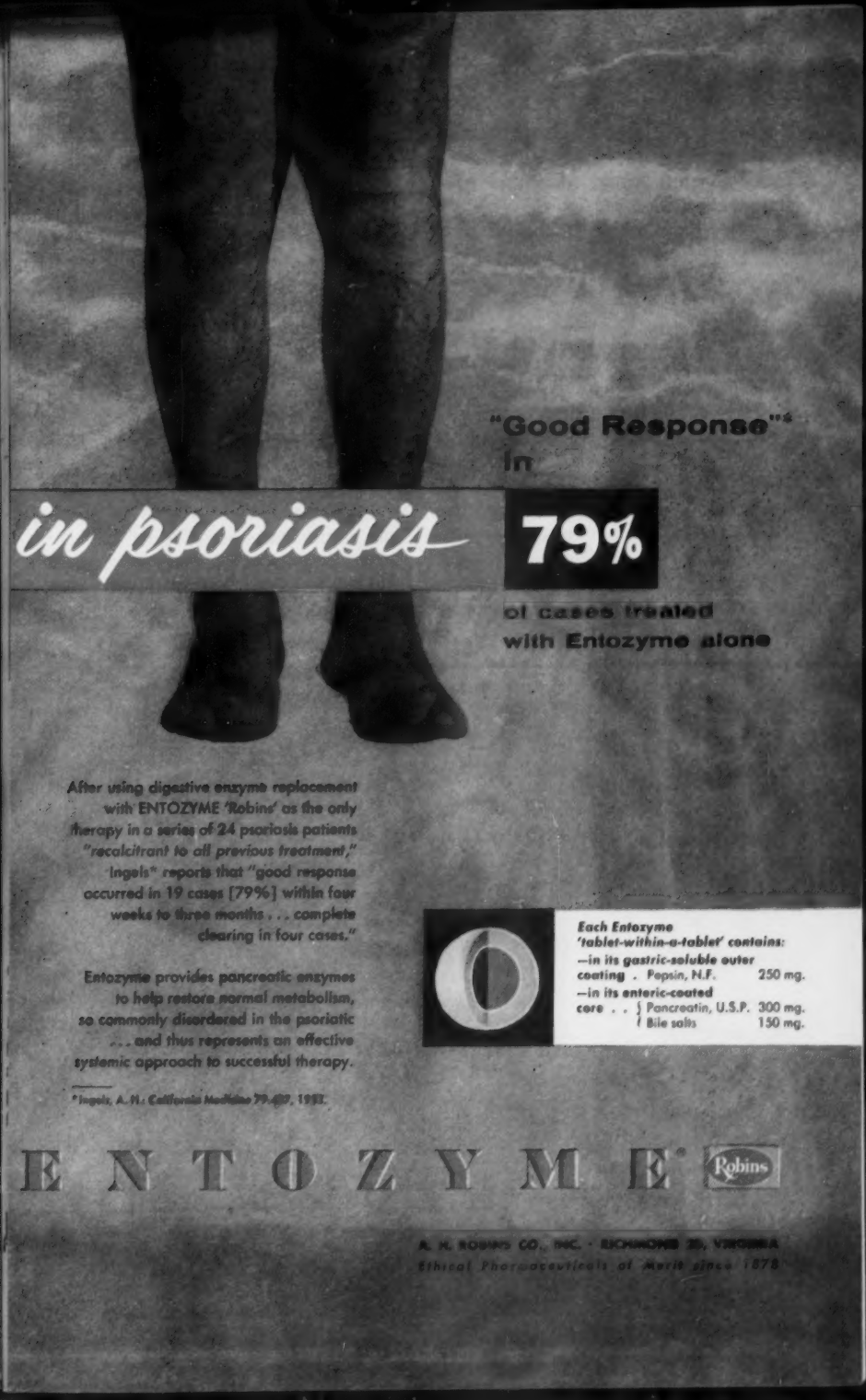
Preoperative Sterilization

Elimination of normal intestinal flora by massive doses of antibiotics before surgery may cause severe diarrhea, electrolyte disturbances, and mycosis. Drs. L. Eckmann and I. Noseda of the University of Basel now omit preoperative steri-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in psoriasis
79%
of cases treated
with Entozyme alone
After using digestive enzyme replacement with ENTOZYME 'Robins' as the only therapy in a series of 24 psoriasis patients "recalcitrant to all previous treatment," Ingels* reports that "good response occurred in 19 cases [79%] within four weeks to three months . . . complete clearing in four cases."
Entozyme provides pancreatic enzymes to help restore normal metabolism, so commonly disordered in the psoriatic . . . and thus represents an effective systemic approach to successful therapy.
* Ingels, A. H.: California Medicine 79:427, 1953.
Each Entozyme 'tablet-within-a-tablet' contains:
—in its gastric-soluble outer coating . Pepsin, N.F. 250 mg.
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lization of the colon; 53 operations have been done for cancer with primary anastomosis in 51. No deaths have occurred.

Schweiz. med. Wchnschr. (Basel) 84:1167-1168, 1954.

•

Insulin Lente for Diabetes

Moderate or severe diabetes can be satisfactorily controlled by single daily injections of insulin lente, reports Dr. R. Mangold of Bern.

Hypoglycemic reactions are unusual and occur only between 9 A.M. and 4 P.M. The reactions can be avoided by adjustment of the diet. Nocturnal hypoglycemia does not occur; reactions at the site of injection and allergic manifestations have not been observed during use of the preparation.

Transfer of patients from soluble and protamine zinc insulins to insulin lente does cause sudden loss of diabetic control or an unusual increase in the insulin requirement. A transient increase in glycosuria may be observed, however.

Schweiz. med. Wchnschr. (Basel) 84:1041-1045, 1954.

•

Serpasil in Psychiatry

Schizophrenia and manic depressive and hyperexcited states may be controlled with Serpasil.

Dr. E. Weber of the University of Zürich gives intramuscular injections of the drug twice daily;

oral administration is started as soon as the patient becomes calm and cooperative.

Tolerance does not occur and the drug is not habit-forming. Injections are painless. However, given in doses higher than 10 mg. daily, the drug may produce tremor.

Schweiz. med. Wchnschr. (Basel) 84:968-970, 1954.

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GERMANY

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Postgonorrheal Complications

Delay in institution of therapy is usually responsible for complications of gonorrhea in males. Penicillin alone may not be effective in such cases.

Dr. Albert Schimpf of the University of Leipzig reports that the conditions most frequently associated are epididymitis and prostatitis. Urethritis, cystitis, and funiculitis may also occur.

Dermat. Wchnschr. (Leipzig) 130:858-863, 1954.

•

Insulin and Neuroses

Because of an apparent dysfunction of the pituitary-thalamic axis from psychic influences, irregular reactions to the insulin tolerance test are frequently noted in neurotic patients.

Dr. H. U. Ziolko of the Free University of Berlin studied the

(Continued on page 218)

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Chlortetracycline HCl *Lederle*

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*TRADE-MARK

blood sugar curves of 62 neurotic women after the intravenous injection of insulin; in 24 cases the curve was flat and in 20 an initial or delayed hyperglycemia was noted, followed by a drop in the blood sugar level.

Der Nervenarzt (Berlin) 25:336-339, 1954.

•

Leukocyte Studies in Vitro

The movement rate of the white blood cell is influenced by certain physiologic agents, reports Dr. M. Albrecht of Berlin after studying living leukocytes in tissue culture explants. Small shifts in the *p*H of the medium toward acidity appreciably activate the leukocytes. Minute doses of ACTH produce a transitory activation with subsequent exhaustion of the leukocytes. At the same time the growth of fibroblasts is suppressed.

Deutsche med. Wchnschr. (Stuttgart) 79: 1431, 1954.

•

Furacin for Eye Disease

Infections of the eye and its adnexa are often relieved by Furacin ointment. Dr. H. Elschnig of Karlsruhe uses the preparation for dacryocystitis, blepharitis, conjunctivitis, and keratitis. The ointment is also of value in the prevention and treatment of inflammatory processes after operations for chalazion, pterygium, and xanthelasma.

(Continued on page 222)

whole root
therapy of
hypertension

RAUDIXIN

SQUIBB RAUWOLFIA

RAUDIXIN CONTAINS ALL THE ALKALOIDS OF THE WHOLE ROOT:

- Ajmaline
- Ajmalicine (Delta-Yohimbine)
- Isoajmaline
- Ajmalinine
- Neoajmaline
- Isorauhimbine
- Rauhimbine
- Rauwolfinine
- Reserpine
- Reserpinine
- Sarpagine (Raupine)
- Serpentine
- Serpentinine
- Yohimbine
- Rescinnamine
- Reserpiline
- Other unidentified alkaloids

Reserpine accounts for practically all of the *sedative* effect of rauwolfia.

Reserpine does not account for all of the *hypotensive* effect of rauwolfia. Other alkaloids, which are not sedative in action, contribute to the hypotensive effect of rauwolfia.

Raudixin is preferred in hypertension because it supplies the total activity of the whole root and does not cause excessive sedation.

50 and 100 mg. tablets,
bottles of 100 and 1000.
Initial dose: 100 mg. b.i.d.

SQUIBB

NEW VICEROY GIVES SMOKERS

20,000 FILTERS

in every Viceroy Tip

Only Viceroy has this new-type filter. Made of a non-mineral cellulose acetate—it gives the greatest filtering action possible without impairing flavor or impeding the flow of smoke.

Smoke is also filtered through Viceroy's king-size length of rich costly tobaccos. Thus, Viceroy smokers get *double the filtering action* . . . for only a penny or two more than brands without filters.

WORLD'S LARGEST-SELLING FILTER TIP CIGARETTE

New King-Size Filter Tip

VICEROY

Only a penny or two more than cigarettes without filters

Excellent results were obtained in 198 of 220 cases, good results in 15. Exacerbations may occur as a result of hypersensitivity to Furacin.

Klin. Monatsbl. Augenh. (Stuttgart) 125:355-358, 1954.

•

ITALY

•

Articular Tuberculosis

Intraarticular injection of dihydrostreptomycin sulfate is often of value for arthritis because higher concentrations can be achieved than by systemic therapy. If treatment is started before irreversible articular changes occur, reports Dr. Mario Davanti of the University of Perugia, satisfactory functional recovery may be attained. Supplemental vitamin therapy is recommended.

Atti Accad. med. chir. Perugia (Perugia) 4:34-43, 1953.

•

FINLAND

•

Therapy for Actinomycoses

Treatment for actinomycosis consists mainly of chemotherapy, surgery, and irradiation. Vaccine and serum therapy have also been used and the antibiotics, especially penicillin, are apparently of considerable value.

Dr. R. Wilenius of the General Hospital, Tampere, administered 400,000 to 600,000 units of penicillin daily to 29 patients; of these, 22 had cervicofacial actinomycosis, 3 thoracic, 2 abdominal, 1 cutaneous, and 1 gingival. All patients were cured except 1 with abdominal disease whose condition was greatly improved.

(Continued on page 228)

Note the Nutritional Difference

THE superior nutritive value of enriched bread over unenriched bread is emphasized by analytical data recently published by the United States Department of Agriculture.[1] Comparison of the two kinds of bread indicates how much more effectively enriched bread contributes to nutritional needs.

Since enriched breads represent an estimated 85 per cent of all commercially produced bread, the evidence shows that bread enrichment has notably increased the B vitamin and iron intake of our population. For this reason enriched bread, since 1941 (when it was first marketed), has been a valuable aid in reducing the incidence of attributable deficiency diseases.[3,4]

But enriched bread contributes to good nutrition in other ways, too. The 13 grams of protein supplied by 5½ ounces (estimated average daily consumption) aids notably in the satisfaction of the daily protein requirement. Since virtually all enriched bread today contains substantial amounts of nonfat milk solids, its protein—consisting of flour and milk proteins—is biologically effective for growth as well as tissue maintenance.

Because of its high nutrient value, its easy and almost complete digestibility, and its universally accepted pleasant, bland taste, enriched bread merits a prominent place not only in the general diet, but in special diets as well. In many reducing diets 3 or more slices daily are included. The average slice of machine-sliced enriched bread supplies only 63 calories.

1. Watt, B.K., and Merrill, A.L.: Composition of Foods—Raw, Processed, Prepared, United States Department of Agriculture, Agricultural Handbook no. 8, 1950.
2. Data furnished by the Laboratories of the American Institute of Baking, Chicago, Ill.
3. Sebrell, W.H., Jr.: Trends and Needs in Nutrition, J.A.M.A. *152*:42 (May 2) 1953.
4. Flour and Bread Enrichment, 1949-50, The Committee on Cereals, Food and Nutrition Board, National Research Council, 1950.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

B VITAMIN AND IRON CONTRIBUTION OF 5½ OUNCES* OF ENRICHED AND UNENRICHED BREADS AND PERCENTAGES OF RECOMMENDED DAILY ALLOWANCES**

	ENRICHED BREAD		UNENRICHED BREAD (of former years)	
	Amounts	Percentages of Recommended Daily Allowances	Amounts	Percentages of Recommended Daily Allowances
THIAMINE	0.37 mg.	25%	0.08 mg.	5%
NIACIN	3.40 mg.	23%	1.40 mg.	9%
RIBOFLAVIN	0.23 mg.	14%	0.09 mg.	6%
IRON	4.10 mg.[2]	34%	1.10 mg.	9%

*An estimated amount of bread consumed daily by the average person.
**Daily dietary allowances (1953) recommended by the National Research Council for a fairly active man 45 years of age, 67 inches in height, and weighing 143 pounds.

AMERICAN BAKERS ASSOCIATION 20 North Wacker Drive, Chicago 6, Ill.

"According to your wife's weight, she should be 9 ft. 6½ in. tall."

Life's Weary Moments

Think of a gag that fits the illustration. For every issue a new gag is published and the author sent $5. The Feb. 15 winner is

Charles Dixon, M.D.
New York City

Mail your caption to The Cartoon Editor Caption Contest No. 1 MODERN MEDICINE 84 South 10th St. Minneapolis 3, Minn.

The period of treatment is usually prolonged and in resistant cases penicillin dosages should be increased or other antibiotics employed. The antibiotics do not obviate surgical drainage of purulent foci or removal of granulation and necrotic tissue, but administration of the drugs often makes more radical surgery possible.

Ann. chir. et gynaec. Fenniae (Helsinki) 42:1-33, 1953.

•

ARGENTINA

•

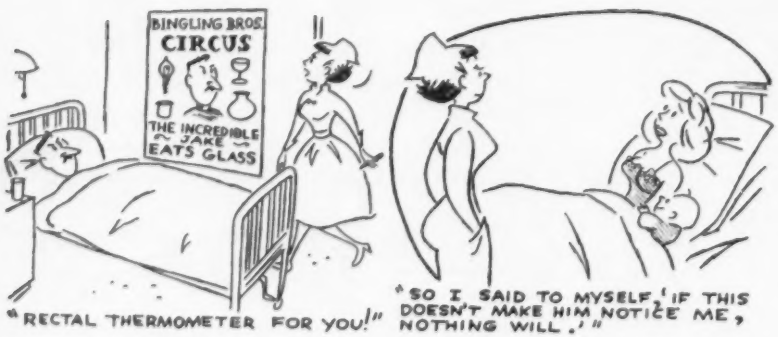
Dysphagia with Spondylitis

Difficulty in swallowing may be the principal presenting symptom of cervical spondylitis, report Drs. M. Kabanchik and M. Schmunis of Buenos Aires. Early osteophitic changes could be demonstrated in 3 patients with transient dysphagia. Diagnosis can be positively established by lateral roentgenograms of the cervical spine.

Prensa méd. argent. (Buenos Aires) 41:2429-2432, 1954.

Nellie Nifty, R.N.

by kaz



WHEN YOUR PATIENT MUST "KEEP GOING"

KŪSED

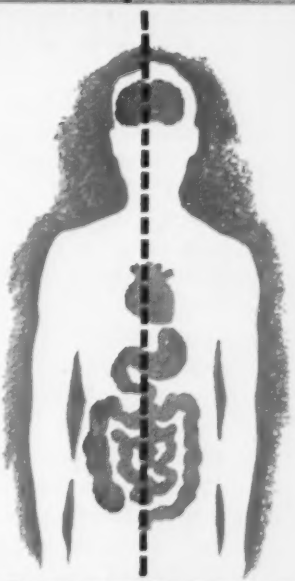
TRADEMARK

provides sedation all along the line . . . with alertness unimpaired

When your patient needs sedation but must face the stresses of daily life, you can provide *comprehensive* sedation plus a psychic release — without clouding of consciousness, gastric disturbance, or drug "hangover" — by writing KŪSED.*

KŪSED acts synergistically at *three important levels* of the nervous system — brain, spinal cord, myoneural junctions — thus permitting effective relaxation without heavy barbiturate dosage.

KŪSED is used widely in anxiety tension; in the control of the tremors and malaise of acute alcoholism; and as a prelude to psychotherapy.



Each KŪSED* capsule contains:

Mephenesin	250	mg.
Calcium Glutamate . .	62.5	mg.
Phenobarbital	7.5	mg.
1-Hyoscyamine HBr . .	0.0625	mg.

DOSAGE: 2 capsules t.i.d. or as indicated, after meals or with milk or fruit juices.

SUPPLIED: Bottles of 100, 500, and 1000 distinctive brown-and-yellow capsules.

Samples and literature on request

*Trademark of Kremers-Urban Co.

K U

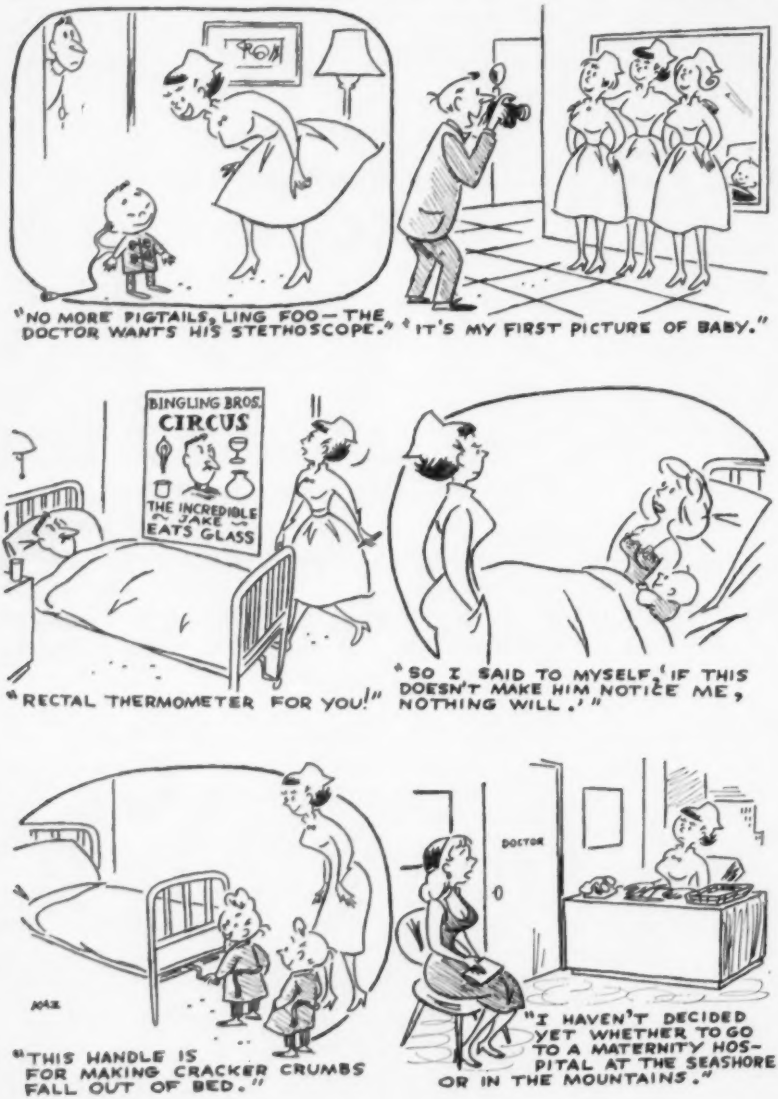
Ethical Pharmaceuticals Since 1894

KREMERS-URBAN COMPANY

LABORATORIES IN MILWAUKEE

Nellie Nifty, R.N.

by kaz



WHEN YOUR PATIENT MUST "KEEP GOING"

provides sedation all along the line . . . with alertness unimpaired

KŪSED

TRADEMARK

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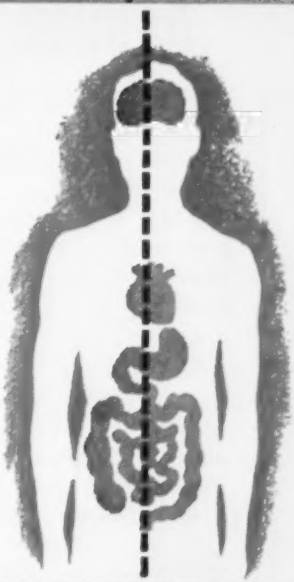

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SUPPLIED: Bottles of 100, 500, and 1000 distinctive brown-and-yellow capsules.

Samples and literature on request

*Trademark of Kremers-Urban Co.

K U

Ethical Pharmaceuticals Since 1894

KREMERS-URBAN COMPANY

LABORATORIES IN MILWAUKEE

BASIC SCIENCE *Briefs*

Hematology

Hemolytic Euglobulin

A recently identified serum protein, properdin, appears to be an essential factor in the lysis of abnormal erythrocytes in paroxysmal nocturnal hemoglobinuria. Dr. Carl F. Hinz, Jr., and associates of Cleveland report that the lytic activity of serum parallels the properdin titer. Although the agent alone is not hemolytic, addition of purified properdin from human, cow, or hog serum restores the lytic properties of properdin-depleted samples.

Gastroenterology

Ulcer Preventative

Oral Kutrol, an extract of pregnant mares' urine, appears to have significant antiulcer activity in dogs. Life is prolonged and hemorrhages, perforations, and ulcer formation after the Mann-Williamson operation are reduced in Kutrol-treated animals, although the concentrations of pepsin and free hydrochloric acid are unaltered, report Dr. David J. Sandweiss and associates of Harper Hospital, Detroit. The effects of oral Kutrol are similar to those of parenteral injections of human uroanthelone or pregnant mares' sera. However, parenteral administration of Kutrol or oral extracts of human placenta are ineffective.

Gastroenterology 27:411-416, 1954.

Against staphylococci

This is an actual strain of *staphylococcus aureus*, isolated from a 5-week-old infant. Note extreme sensitivity of the organism to ERYTHROCIN—although it easily resists penicillin and three broad-spectrum antibiotics. This organism may be associated with *sinusitis . . . otitis media . . . tonsillitis . . . abscess . . . bronchopneumonia . . . empyema . . . carbuncle . . . pyoderma . . . bronchiectasis . . . furunculosis . . . pharyngitis . . . septicemia . . .* and *tracheobronchitis.*

for specific therapy against coccic infections . . .

Wide-range activity against gram-positive pathogens—that's the story of ERYTHROCIN *Filmtab*. As you know, most bacterial respiratory infections are produced by staph-, strep- or pneumococci. *And that is the very range where* ERYTHROCIN *is most effective.* In fact, you'll find it more active against this group of organisms than many other antibiotics.

prescribe

filmtab®

Erythrocin® STEARATE

(Erythromycin Stearate, Abbott)

802087

Against common intestinal flora

This sensitivity test shows ERYTHROCIN, penicillin and three broad-spectrum antibiotics against a typical strain of *E. coli*. Note that ERYTHROCIN and penicillin do not affect growth of the organism—*while all three broad-spectrum antibiotics show marked inhibitory action* Since ERYTHROCIN is inactive against gram-negative organisms, it is less likely to cause alteration in common intestinal flora—with an accompanying low incidence of side effects.

. . . with little risk of serious side effects

One reason is because the drug acts specifically. It destroys coccic invaders, yet doesn't materially change the normal intestinal flora. Thus, side effects are rarely encountered with ERYTHROCIN. Nor does it produce the allergic reactions occasionally seen with penicillin therapy. Abbott

prescribe

filmtab®

Erythrocin® STEARATE

(Erythromycin Stearate, Abbott)

802067

Nutrition

Protein Repletion

Human blood is inadequate as a sole source of amino acid nutrition in protein-depleted rats. Weight loss in such animals continues at the same rate with a diet of human blood as with a nonprotein diet, reports Dr. Douglas V. Frost of North Chicago. However, a diet of human blood fortified with isoleucine and methionine caused a significant increase in weight and was well accepted by the animals. Addition of isoleucine and methionine apparently corrects the nutritive imbalance in the amino-acid content of human blood.

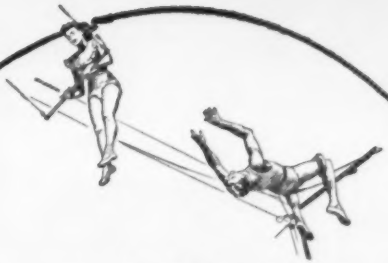
Proc. Soc. Exper. Biol. & Med. 86:742-744, 1954.

Parasitology

Trypanocidal Antibiotic

Most trypanosome infections in mice are inhibited by Puromycin, an antibiotic produced from a strain of *Streptomyces*. *Trypanosoma* strains of the *evansi* group, *T. equiperdum*, *T. evansi*, and *T. equinum*, are more susceptible to the trypanocidal agent than are the *brucei* group, *T. rhodesiense* and *T. gambiense;* and one species, *T. congolense*, is refractory, reports Dr. Eleanor Johnson Tobie of the National Institutes of Health, Bethesda, Md. Administration of Puromycin four hours after induction of the disease, or during the height of infection, suppresses the development of parasitemia due to all strains except *T. congolense*. Given before inoculation with the organisms, however, the drug has no effect on the development of the disease.

Am. J. Trop. Med. 3:852-859, 1954.



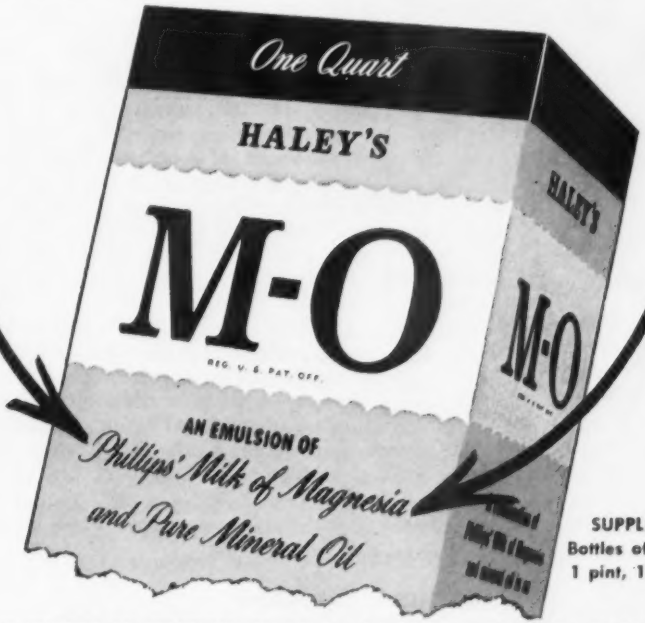
Smooth-Working Combination

TO HELP CORRECT CONSTIPATION

Antacid • Laxative • Lubricant

Magnesium Hydroxide plus pure mineral oil make Haley's M-O a smooth working antacid-laxative-lubricant that efficaciously relieves constipation and the attendant gastric hyperacidity.

The oil globules in Haley's M-O are minutely subdivided to assure uniform distribution and thorough mixture with intestinal contents. Oil leakage is avoided and a comfortable evacuation is effected through stimulation of normal intestinal rhythm and blunted defecation reflex.



SUPPLIED:
Bottles of 8 oz., 1 pint, 1 quart.

THE CHAS. H. PHILLIPS CO. DIVISION *of Sterling Drug Inc.* **1450 Broadway, New York 18, N. Y.**

In addition to the usual aids in selecting an electrocardiograph . . .

Sanborn's "Test" and "Return Privilege" plan offers you

A 15-DAY EXPERIENCE OF YOUR OWN

SANBORN COMPANY, or any of its representatives, will be glad to furnish you with a list of Viso-Cardiette owners in your city, or area, so that you may ask *them* about their experiences with the Viso. We also invite you to ask us for completely descriptive literature on the Viso. And, if you are located in one of the thirty Sanborn Branch Office or Service Agency cities, or its environs, a representative will be more than glad to arrange a demonstration in your office. These are the customarily available aids in selecting an electrocardiograph, not necessarily exclusive to Sanborn.

However, exclusive *with* Sanborn is a "direct-to-user" policy which offers any physician or hospital added benefits in ECG ownership. Among these is the opportunity to use a Viso Cardiette *as your own,* for 15 days, and without obligation of any kind. (If, at the end of the test period, you don't like the Viso, you simply return it to us in its convenient, specially designed shipping carton.)

Thus, to the usual aids in judging and selecting an ECG, Sanborn lets you add *your own experience.* May we tell you more about this plan?

Also offered under this plan is the Sanborn METABULATOR, a metabolism tester with many conveniences. Descriptive literature is available.

SANBORN COMPANY

195 Massachusetts Avenue, Cambridge 39, Massachusetts

Gastroenterology

Accelerated Gas Diffusion

With increased atmospheric pressure, gas is diffused more rapidly from closed-loop obstructions in dog bowels. Dr. Frederick S. Cross of the University of Minnesota, Minneapolis, reports that the most satisfactory results are obtained with 95% oxygen at 2 atmospheres of pressure for six hours. Diffusion rates continue to increase with greater pressures or more extended periods of exposure, but oxygen intoxication becomes a serious complication. Viability and contractibility of the bowel wall are well preserved in pressurized animals, whereas nontreated dogs have numerous necrotic and gangrenous bowel areas.

Surgery 36:1001-1026, 1954.

Angiology

Capillary Response to Stress

Emotional factors may interfere with original determinations of capillary resistance. On initial testing, vasospasms of precapillary arterioles are sometimes found in apparently stable, phlegmatic individuals as well as in those who are obviously nervous, apprehensive, and vasolabile, report Dr. Jenö Kramár and associates of Creighton University, Omaha. Severe emotional stress in rats elicits prolonged alteration of capillary resistance identical to the profound capillary changes observed after somatic stress. An initial rise of capillary resistance is followed by a sudden drop to a plateau of abnormally low resistance. Normal capillary response is recovered after about thirty days.

Psychosom. Med. 16:393-397, 1954.

short REPORTS

Histology

Osteogenesis after Ultrasound

Fibrotic and osseous tissue replaces the marrow cavity of dog femurs exposed to moderate doses of ultrasonic energy. Small doses, which raise the bone temperature less than 7° C., produce only hemorrhage in the marrow, but greater ultrasonic exposure stimulates osteogenesis and fibrosis of the marrow and, in some instances, fat necrosis and giant cell and subperiosteal bone formation, report Dr. Leonard F. Bender and associates of the Mayo Clinic, Rochester, Minn. No histologic alterations occur in the cortices of exposed canine femurs.

Arch. Phys. Med. 35:555-559, 1954.

Cardiology

Calcific Aortic Stenosis

A causal relationship is apparent between calcific aortic stenosis and increased serum cholesterol levels. Significant elevations of serum cholesterol were found in nearly half of 43 women with the calcific disease, report Dr. Ernst P. Boas and associates of Mount Sinai Hospital, New York City, but in only 13.3% of 45 women with chronic rheumatic valvular disease. The incidence of cholesterolemia in men was approximately the same in both diseases. Of 3 patients with xanthomatosis or familial hypercholesterolemia associated with calcific stenosis, only 1 had had rheumatic fever. The data suggest that calcific aortic stenosis may be caused by atherosclerosis of normal aortic valves, although in most instances the disease is probably due to secondary atherosclerosis of rheumatic scars.

Am. Heart J. 48:485-496, 1954.

Urology

Diagnostic Renal Puncture

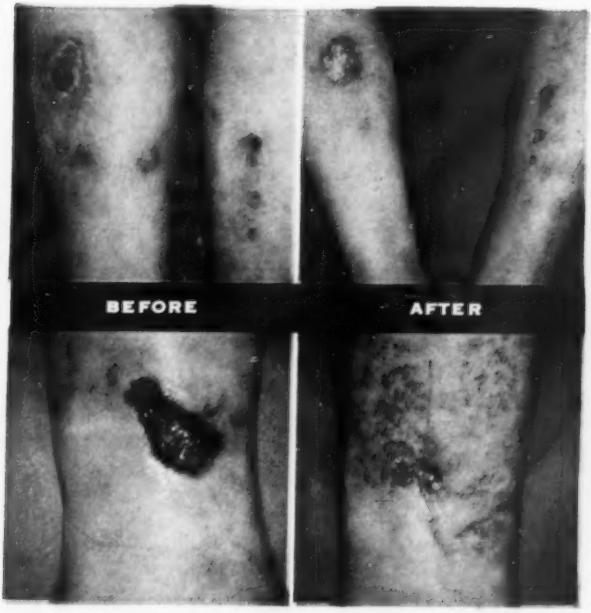
Injection of contrast medium directly into the kidney by percutaneous puncture may definitively establish the diagnosis of hydronephrosis. The technic is of particular value when excretory or retrograde urographic methods are not useful, as for patients with complete ureter obstruction, explain Drs. H. Stephen Weens and Thomas J. Florence of Emory University, Atlanta. The puncture site is established radiographically and prepared with a local anesthetic before insertion of a 5-in., 18-gauge needle. If urine can be aspirated from the calyces or pelvis, the needle is placed correctly and 20 to 30 cc. of 35% Diodrast may be injected. When no urine is aspirated, 10 to 20 cc. of the contrast medium may be injected in the estimated location. Roentgenograms are made immediately after injection.

J. Urol. 72:589-595, 1954.

In peripheral vascular disease

you can increase blood flow to the extremities with

oral **Priscoline®**



BILATERAL ARTERIOSCLEROTIC ULCERATION
in patient age 65. With oral Priscoline, 25 mg. four times daily for one week and 25 mg. every three hours thereafter, there was marked improvement in 2 weeks and healing within 6 weeks.

HYPERTENSIVE ISCHEMIC ULCER
in patient age 65. Treated with oral Priscoline, 25 mg. four times daily for four days and 50 mg. every four hours thereafter. Healing completed in 10 weeks.

PHOTOGRAPHS AND CLINICAL DATA COURTESY OF R. J. LOWENBERG, M.D., CONSULTANT, VASCULAR SURGERY, CONNECTICUT STATE HOSPITAL, MIDDLETOWN, CONNECTICUT.

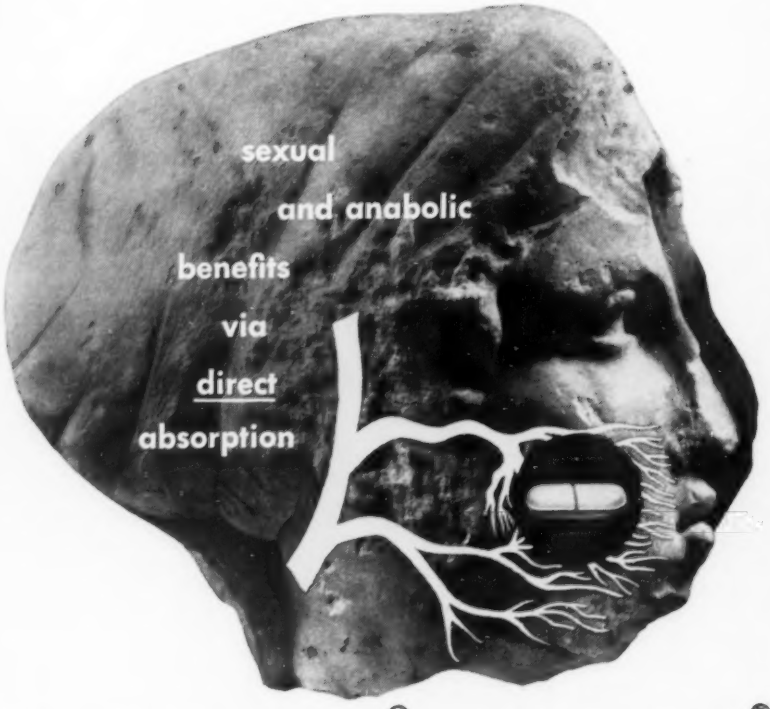
A valuable aid in the treatment of peripheral ischemia and its sequelae—pain, loss of function, ulceration, gangrene, and other trophic manifestations.

TABLETS, 25 mg. (scored)
ELIXIR, 25 mg. per 4-ml. teaspoonful
MULTIPLE-DOSE VIALS, 10 ml., 25 mg. per. ml.

Priscoline® hydrochloride (tolazoline hydrochloride CIBA)

C I B A
SUMMIT, N. J.

2/ZUTOM



METANDREN® LINGUETS®

the most potent oral androgen

FEMANDREN® LINGUETS®

the most potent oral estrogen with the most potent oral androgen

Buccally or sublingually absorbed LINGUETS by-pass liver inactivation or gastric destruction—are virtually as potent as parenteral steroids—provide effective, convenient, low-cost hormone therapy.

Supply: Metandren Linguets, 5 mg. (white, scored) and 10 mg. (yellow, scored). Femandren Linguets (green, scored), each containing 0.02 mg. ethinyl estradiol and 5 mg. methyltestosterone.

Metandren® (methyltestosterone U.S.P. CIBA)
Femandren® (methyltestosterone with ethinyl estradiol CIBA)
Linguets® (tablets for mucosal absorption CIBA)

C I B A Summit, N. J.

9/ 20758M

Doctor to Doctor

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The Feb. 15 winner is

G. A. Williams, M.D.
Atlanta

Mail your caption to
The Cartoon Editor
Caption Contest
No. 2
MODERN MEDICINE
84 South 10th St.
Minneapolis 3, Minn.

"Well, maybe Gluteus Maximus was a Roman emperor, too."

Announcing New High Potency

A-P-

Higher penicillin blood levels—200,000 units per tablet

Lower daily dosage—only 4 tablets a day

Superior new antihistamine—exceptionally potent, unusually low incidence of side reactions

WHITE LABORATORIES, INC., KENILWORTH, N. J.

...prevent and control secondary bacterial infections

...while relieving symptoms of the common cold and other ill-defined respiratory infections

CILLIN®-200

In a single convenient tablet, A-P-Cillin-200 combines three widely prescribed therapeutic agents for management of acute upper respiratory infections.

Each A-P-Cillin-200 tablet contains:

1 **APC**—for analgesic and antipyretic action.

Acetylsalicylic acid	2½ gr.
Phenacetin	2½ gr.
Caffeine	¾ gr.

2 **ANTIHISTAMINE**—for local symptomatic relief, particularly from profuse nasal discharge.

Diphenylpyraline hydrochloride	2 mg.

3 **PENICILLIN**—for prevention and control of secondary bacterial infections.

Procaine penicillin G	200,000 units

Recommended adult dosage is 1 tablet four times a day, continued for at least three days. Tablets should be taken at least one hour before or two hours after meals.
Supplied in bottles of 24 and 100 tablets.

Also available:
A-P-CILLIN (100)

Acetylsalicylic acid	2½ gr.
Phenacetin	2 gr.
Caffeine	½ gr.
Phenyltoloxamine dihydrogen citrate	25 mg.
Procaine penicillin G	100,000 units

Supplied in bottles of 50 and 500 tablets.

Nephrology

Altered Hypertension

Renal hypertension in rats appears to be associated with thyroid activity. Thyroidectomy or administration of antithyroid agents decreases blood pressure in rats with renal hypertension caused by ligature of 1 kidney and contralateral nephrectomy, reports Dr. E. Braun-Menendez of Buenos Aires. In contrast, the administration of thyroid hormone after the same procedure produced exaggerated hypertensive levels.

Hematology

Hemoglobin E Disease

An inherited hemolytic disease is found in individuals with erythrocytes composed predominantly of abnormal hemoglobin E component. With electrophoretic mobility studies of serum from Thailanders, Dr. Amoz I. Chernoff and associates of St. Louis have found a pure hemoglobin E disease and a combined Mediterranean-hemoglobin E dyscrasia. Some patients with erythrocytes containing 94 to 98% hemoglobin E have splenomegaly, hepatomegaly, and icterus and all are easily tired and arthralgic. Hematologic characteristics include normal levels of microcytic, normochromic erythrocytes; 25 to 60% target cells; excessive erythropoiesis of the marrow; and a shift to the right in the osmotic fragility curves. Symptoms and hematologic signs of the combined disease are almost identical with those of Cooley's disease, although usually milder. Hemoglobin E and F are both present in these patients, with E comprising 60 to 80% of the total.

Rabellon®

COMPOUND OF BELLADONNA ALKALOIDS

in parkinsonism,
a "mainstay of treatment for many years"[1]

MAJOR ADVANTAGES: Provides three purified belladonna alkaloids for synergistic effect. Reduces rigidity and tremor. Improves mental outlook.

RABELLON checks tremor, makes fine movements possible

Within a week after you prescribe RABELLON, you can expect improvement in your parkinsonian patient. RABELLON lessens muscle rigidity and tremor. Speech, gait and handwriting become better. Your patient will be able to get out and about again, be able to live a more normal life. No wonder the mental outlook often improves when your patient takes RABELLON.

Each quarter-sected RABELLON tablet contains 0.4507 *mg.* hyoscyamine hydrobromide, 0.0372 *mg.* atropine sulfate and 0.0119 *mg.* scopolamine hydrobromide.

SHARP & DOHME

Philadelphia 1, Pa.
DIVISION OF MERCK & CO., INC.

Reference: 1. Journal Lancet 74:245 (July) 1954.

Anesthesia

Presurgical Sedation

Combinations of pethidine, phenergan, and Largactil provide satisfactory sedation for pre- or postsurgical patients. The effects of the drugs do not simulate hibernation in animals, but Dr. Ralph Schackman and associates of the Postgraduate Medical School of London have observed increased peripheral blood flow, pulse rate, and cardiac output and decreased blood pressure and systemic resistance with doses of 100 mg. pethidine, 50 mg. phenergan (promethozine), and 100 mg. Largactil (chlorpromazine) in 200 cc. saline. Rapid infusion permits endotracheal intubation.

Lancet 267:617-620, 1954.

Psychiatry

Changes in Blood Viscosity

The anxiety which often precedes surgery may predispose patients to thromboembolic conditions. Using an ultrasonic instrument to record blood viscosity changes in neurotic patients with and without overt anxiety and in psychotic subjects, Dr. Jacob Levine and associates of the Veterans Administration Hospital, West Haven, Conn., have observed that stress situations provoke behavior disturbances and increase viscosity in the tense neurotic subjects but not in placid persons. The greatest changes in viscosity are noted among psychotic patients awaiting electroshock therapy.

Psychosom. Med. 16:398-403, 1954.

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For post-operative patients, for patients with severe illness or serious vitamin depletion, for patients suffering fractures, burns, trauma, or other extraordinary physiologic stress.

Each CAPSULE *contains:*

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Riboflavin (B_2)	10 mg.
Niacinamide	100 mg.
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Pediatrics

Refractory Infections

Administration of pooled gamma globulin may terminate infectious processes not responsive to antibiotic therapy. All of 6 infants with progressive infections of the lungs, upper respiratory, or gastrointestinal tracts were promptly benefited after injections of gamma globulin, report Drs. Jerome R. Harris and Bela Schick of Beth-El Hospital, Brooklyn. Terramycin, Aureomycin, Gantrisin, Chloromycetin, and combinations of streptomycin and penicillin were not effective. Apparently the patients are deficient in specific antibodies supplied by exogenous gamma globulin.

J. Mt. Sinai Hosp. 21:148-161, 1954.

Hematology

Anemia and Polycythemia

Appearance of the bone marrow of patients with polycythemia vera who have attendant anemia due to spontaneous hemorrhages is probably pathognomonic. Diagnosis is possible by recognition of extreme panhyperplasia and complete depletion of iron in the marrow sections despite the severity of anemia, report Dr. Matthew Block and associates of Denver. Megakaryocytic hyperplasia is usual. Splenic biopsy reveals nonspecific red pulp hyperplasia with no demonstrable iron and often slight myeloid metaplasia.

Proc. Central Soc. Clin. Research 27:17, 1954.

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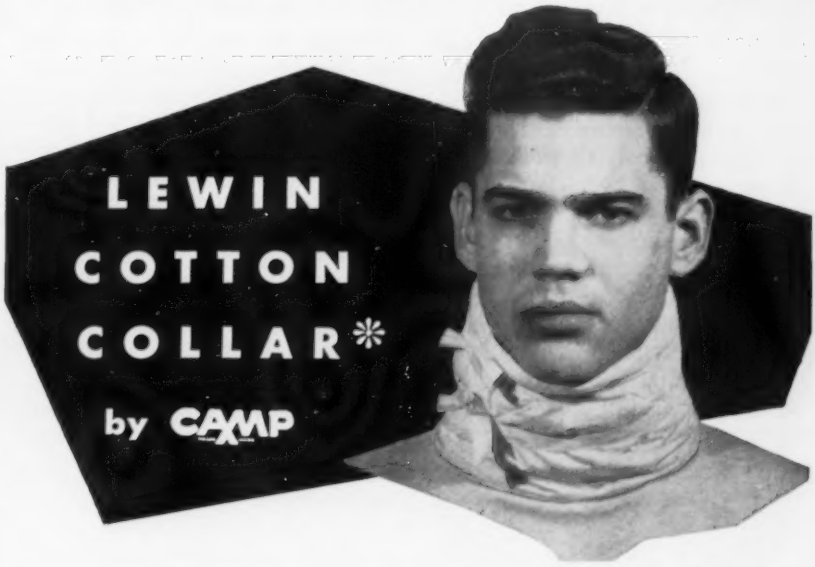

CAN BE USED IN CASES OF: arthrities, fibrositis, brachial neuropathy, radiculitis, the neck-shoulder-hand syndrome, muscle injuries and subluxation of vertebral articular facets.

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* *As described in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Vol. 155, No. 13, July 24, 1954.*

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Cardiology

Blood Pressure Response

Consistent orthostatic fall in blood pressure occurs after intramuscular administration of Thorazine to patients with hypertension. Intragluteal injections ranging from 25 to 100 mg. given to 10 adults with benign essential hypertension were effective within fifteen to thirty minutes, report Drs. Thomas D. Stevenson and Albert Sjoerdsma of the National Institutes of Health, Bethesda, Md. Systolic pressure usually fell to normal or hypotensive levels, accompanied by a similar drop in diastolic pressure. Recumbent pressure remained unchanged.

Proc. Soc. Exper. Biol. & Med. 86:726-728, 1954.

Neurology

Multiple Sclerosis Therapy

Although no rationale is available for the use of isoniazid in multiple sclerosis, the drug appears to lessen neurologic disturbances and prevent exacerbations. Of 30 patients given initial daily doses of 300 mg. of Rimifon and then maintained by 200 mg. daily, Drs. John F. Kurtzke and Louis Berlin of the Veterans Administration Hospital, Bronx, found that 90% improved, 7% did not change, and 3% became worse. In a comparable series of 175 patients treated by other methods, improvement was observed in only 33%, no response in 50%, and increased disability in 17%.

Am. Rev. Tuberc. 70:577-592, 1954.

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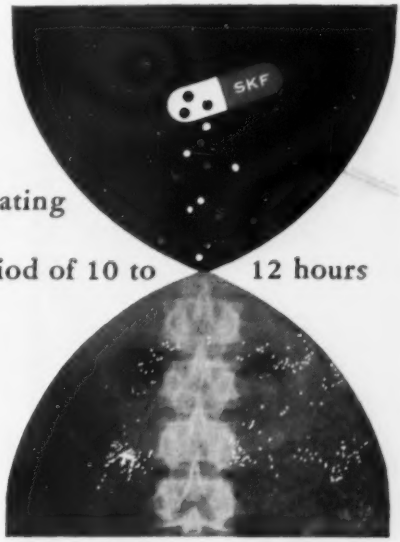

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*T.M. Reg. U.S. Pat. Off. Patent Applied For.

Cardiology

Pulmonary Hypertension

Medial hypertrophy and intimal hyperplasia of the small pulmonary arteries and arterioles are observed in patients with primary pulmonary hypertension. Cardiac catheterization of 4 individuals with the idiopathic disorder revealed arterial oxygen unsaturation, normal pulmonary capillary pressure, elevated pulmonary arterial mean pressures, decreased cardiac indexes, increased total pulmonary resistance, and elevated right ventricular diastolic pressures. All of the patients died three to twelve years after first symptoms, report Dr. Lewis Dexter and associates of Boston. The only cardiac lesion noted post mortem was right ventricular hypertrophy.

Gastroenterology

Motility and Ulcer Pain

Changes in duodenal motility do not appear to produce duodenal ulcer pain. When the *p*H was lowered to 1.88 or less by intraduodenal administration of one-tenth normal hydrochloric acid, characteristic ulcer pain appeared in 4 of 7 patients with uncomplicated duodenal ulcer studied by Drs. Edward R. Woodward and Herbert Schapiro of the Veterans Administration Center, Los Angeles. Simultaneous motility records revealed a cessation of gastric motility but no changes in the duodenal contractions at the onset of ulcer pain. Inhibition of duodenal motility by anticholinergic drugs did not relieve ulcer pain. However, elevation of duodenal *p*H by neutralization or aspiration did produce relief.

Proc. Soc. Exper. Biol. & Med. 86:504-506, 1954.

Treatment

Aid for Emphysema

Diaphragmatic breathing is a valuable adjunct in the treatment of chronic pulmonary emphysema. Breathing exercises were taught to 24 patients for a six- to eight-week period after greatest improvement possible with conventional measures had been achieved. Dr. William F. Miller of the University of Texas, Dallas, reports that diaphragmatic excursion was greatly increased in all individuals with improvement of tidal volumes at a lower respiratory rate and midposition. Arterial oxygen saturation increased, arterial carbon-dioxide values decreased, and exercise tolerance improved.

Am. J. Med. 17:471-477, 1954.

Ophthalmology

Magnetic Orbital Implants

Satisfactory mobility and support for an artificial eye are afforded by a magnetic field set up between a magnet in the permanent implant and 1 in the prosthetic. The magnetized implant is imbedded in the cavity of Tenon's capsule after standard enucleation and held in place by tantalum mesh attachments to the rectus muscles and by overlying Tenon's capsule and conjunctiva. The artificial eye is inserted eight weeks after operation. Extrusion and dehiscence are extremely rare with this technic, report Drs. Everett H. Tomb and Donald F. Gearhart of the Veterans Administration Hospital, Boston. Mobility of the artificial eye is usually similar to that of the normal eye, with no tilting, rotation, or proptosis.

Arch. Ophth. 52:763-768, 1954.

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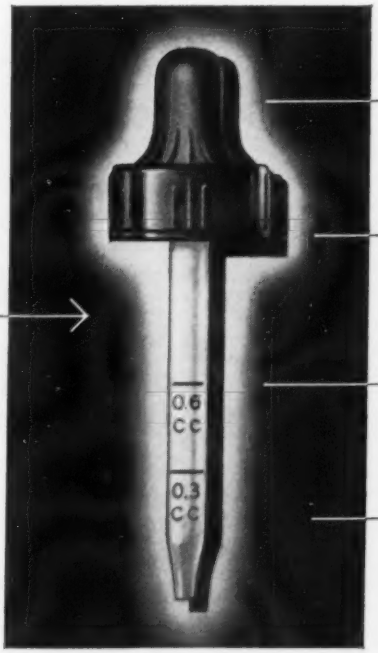

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dose can be given directly into the infant's mouth, the method preferred by mothers.

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Each 0.6 cc. supplies:

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Riboflavin	0.8 mg.
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TRI-VI-SOL

Vitamins A, D and C

Each 0.6 cc. supplies:

Vitamin A	5000 units
Vitamin D	1000 units
Ascorbic acid	50 mg.

Both Poly-Vi-Sol and Tri-Vi-Sol are available in a convenient new 30 cc. size as well as in 15 and 50 cc. bottles.

The 'Safti-Dropper' is also supplied with Ce-Vi-Sol, Solution of Vitamin C . . . and Fer-In-Sol, Solution of Ferrous Sulfate.

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Collagen Disease

Test of Rheumatoid Activity

The serum polysaccharide-protein ratio (PR) offers an objective measure of rheumatoid activity. The ratio is significantly elevated in patients with rheumatoid arthritis. Total serum protein and serum nonglucose polysaccharide determinations in 103 individuals revealed average values of 1.76 for healthy subjects, compared to 2.96 for patients with severe active rheumatoid arthritis, report Dr. R. W. Payne and associates of the University of Oklahoma and Veterans Hospital, Oklahoma City. Increase of disease activity is accompanied by a proportionate rise in PR. Persons with inactive disease had an average PR value of 1.81; with slight activity, 2.12; and with moderate activity, 2.43.

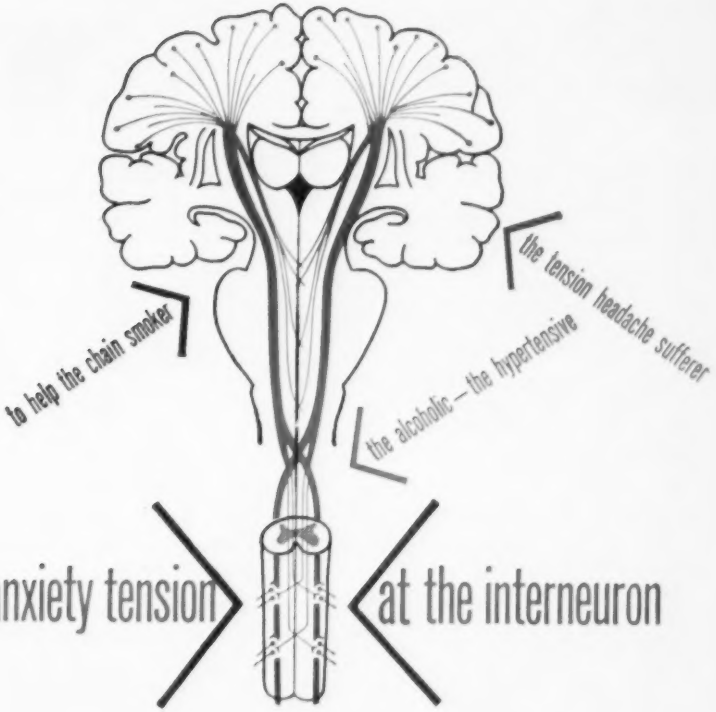
Ann. Int. Med. 41:775-779, 1954.

Physical Medicine

Ultrasonic Muscle Changes

Denervated muscles in the rabbit are beneficially affected by repeated ultrasonic exposures. However, ultrasonic therapy of degenerative muscular diseases in man is not advisable, since the effective intensity range is narrow and a slight overexposure is detrimental. Dr. Ernst Fischer and associates of the Medical College of Virginia, Richmond, found that repeated exposure of denervated rabbit muscle to ultrasound of 1,000 kilocycles, 0.4 to 1 watt per square centimeter, delayed weight loss, diminished intracellular potassium-sodium exchange, and retarded deterioration of muscle proteins.

Am. J. Phys. Med. 33:284-298, 1954.



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Oncology

Diagnosis of Adrenal Tumors

Elevated plasma epinephrine and norepinephrine may indicate pheochromocytoma. Dr. William M. Manger and associates of the Mayo Clinic and Foundation, Rochester, Minn., found high levels of norepinephrine, epinephrine, and epinephrine-like substances in 9 patients with sustained and in 2 with paroxysmal hypertension due to pheochromocytoma. In 2 additional patients with paroxysmal hypertension, pressor amine concentrations could be increased to diagnostic levels by provocative tests with intravenous histamine, tumor palpation, or anesthesia. Healthy subjects and patients with primary hypertension or other diseases had no comparable increases in pressor amines.

Circulation 10:641-652, 1954.

Metabolism

Diurnal Rhythm in Diabetes

Severe diabetes mellitus is better controlled when insulin doses are spaced to coincide with a periodic rhythmicity in ketone body formation and excretion. A diurnal rhythm or excretion of beta-hydroxybutyric acid, which does not parallel changes in glycosuria, may be demonstrated consistently in severe diabetic patients during fasting, reports Dr. Jakob Möllerström of the Svenska Diabetessiftelsens Sjukhem, Stockholm. Ketone body periodicity in severe diabetes is associated with a general diurnal rhythm of carbohydrate metabolism manifested by periodic glycogen formation in the liver and fluctuations in blood and urinary sugar.

Diabetes 3:188-191, 1954.

The "quick'n easy" of Low-Residue Diets...

With a can opener as key to this diet, your patient has a wide choice of strained foods. And these diet "do's" can guide him toward tempting dishes.

Vary the texture for taste appeal—

Consommé can be served hot with crisp croutons, or cold and jellied in shimmering peaks. Puréed vegetables folded into a beaten egg can be baked to a puff, or molded in gelatin. Eggs can be soft or hard cooked by simmering—or scrambled in a double boiler.

Serve prettily for eye appeal—

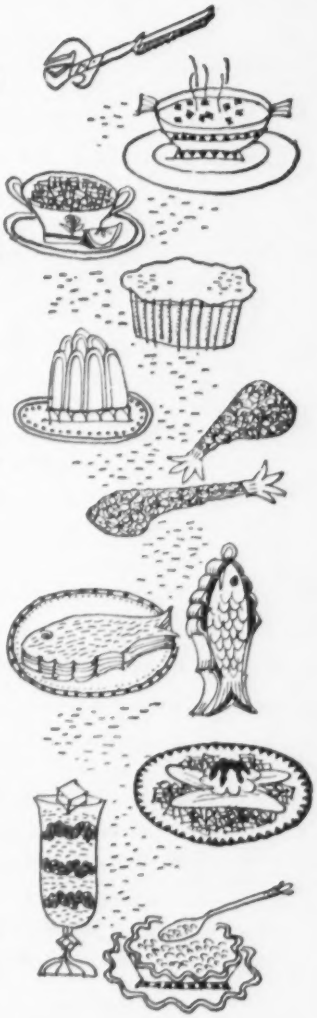
Chopped meat can be shaped like a chop—minced chicken like a drumstick—before baking. And flaked fish in lemon gelatin can be chilled in a fish mold.

Potatoes mashed with a little broth whip up creamy and light with cottage cheese.

In banana split salad, the "greens" are lime gelatin shredded with a fork. Top the banana with cottage cheese and spoon apricot purée over all.

Rice cooked in pineapple juice, water, and sugar makes a golden dessert. And for a gay parfait—alternate layers of farina pudding with puréed plums. Then put a sparkling cube of clear jelly on top.

Of course, only you can tell your patient which foods he can have. And these ideas can help make them appetizing.



Patients . . . I have met

● *The editors will pay $1 for each story published. No contributions will be returned. Send your experiences to the Patients I Have Met Editor, MODERN MEDICINE, 84 South Tenth St., Minneapolis 3, Minn.*

Scale to Income

A patient said, "Oh, no, Doctor; I may be nervous, but I'm not rich enough to have psychoneurosis."—E.K.

"I'm going to give him an anesthetic and he won't know anything," I told my patient's wife.

"Doc, Bill don't know anything now," she replied.—S.L.

Lesser Evil

When I ordered a patient to give up alcohol for life, he remarked sadly, "Well, maybe I won't live long."—B.P.S.

"It's working out much better than magazines, isn't it?"

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"... stops the diarrhea sooner, more effectively, and with less recurrence."[1]

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1. Russ, J. D.: Personal communication

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Diplomacy

A patient with an unpaid bill said, "Doctor, I owe you $100 and an apology. Please accept the apology now."—B.P.S.

Call for Courage

"Tell your wife not to worry about her slight deafness," I said to my caller. "It's merely a sign of advancing years."

"Er—Doc, would you mind telling her yourself?" he asked.—L.L.B.

Resistant Patient

I couldn't understand why a patient wasn't obtaining relief from the drug I prescribed. When he said he observed the directions on the bottle, I asked, "What instructions are given?"

"Keep the bottle tightly closed," he answered.—J.B.

Additional Anatomy

When I told a patient she had bronchitis, she asked, "You mean my bronx is inflamed?"—E.K.

Free Advice

A beggar approached me with his tin cup and said, "It's a cold day and I've been standing here for a long time."

"Well jump up and down," I said. "Keep your blood in circulation."—B.P.S.

Starvation Diet

I was introduced to a sword swallower and asked him to demonstrate his art. When he swallowed a few needles, I protested, "They weren't swords."

"I know," he teased, "my doctor put me on a diet."—G.J.

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1. MERLIS, S.: Diamox: A Carbonic Anhydrase Inhibitor—Its Use in Epilepsy. Neurology. 4:11, 863-866 November 1954.

2. BECKER, B.: Decrease in Intraocular Pressure in Man by a Carbonic Anhydrase Inhibitor, Diamox. Am. J. Ophth. 37:1, 13-15 January 1954.

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